

# Exhibit J

**Exhibit J - U.S. Patent No. 9,215,613 (“’613 Patent”)**

Accused Instrumentalities: smartphones, basic phones, tablets, laptops, and hotspot devices sold (including those sold in bundles with data plans) or used by T-Mobile and all versions and variations thereof (“Accused Instrumentalities”) since the issuance of U.S. Pat. No. 9,215,613 (the “Asserted Patent”).

**Claim 1**

Claim	Public Documentation
[1pre] A wireless end-user device, comprising:	<p>The Accused Instrumentalities include “A wireless end-user device, comprising.”</p> <p>For example, T-Mobile sells and uses devices described by T-Mobile’s website below (e.g., devices made by Samsung, Apple, Motorola, Google, Nokia, etc.). These devices constitute a wireless end-user device as described in claim 1. <i>See, e.g.</i> <a href="https://www.t-mobile.com/cell-phones">https://www.t-mobile.com/cell-phones</a></p>

Claim

Public Documentation

WIRELESSBUSINESSPREPAIDINTERNETTVBANKING

T

PlansPhones & devicesDealsCoverageJoin Us

Find a storeContact & supportCartSearchMy account

Free 2-day shipping. Applied at checkout or call 844-489-9807

Shop

Phones

Tablets & Devices

Smart watches

Hotspots & more

Accessories

Filters

Deals

Brands

Operating System

Network speed

SIM type


Phones48 items

Sort by: Featured

Get a fast and easy financing decision. (This won't affect your credit score.)

See what I qualify for

See 5 deals



Apple

iPhone 15 Pro

Starting at

Monthly\$41.67


for 24 months before promotion

Today\$0

down + tax

Full price: \$999.99

See 5 deals



Apple

iPhone 15 Pro Max

Starting at

Monthly\$50.00


for 24 months before promotion

Today\$0

down + tax

Full price: \$1,199.99

See 5 deals



Apple

iPhone 15

Starting at

Monthly\$34.59


for 24 months before promotion

Today\$0

down + tax

Full price: \$829.99

See 5 deals



Apple

iPhone 15 Plus

Starting at

Monthly\$38.75


for 24 months before promotion

Today\$0

down + tax

Full price: \$929.99

See 4 deals



Apple

iPhone 13

Starting at

Monthly\$26.25


for 24 months before promotion

Today\$0

down + tax

Full price: \$629.99

See 5 deals



Apple

iPhone 14 Pro

Starting at

Monthly\$37.50

for 24 months before promotion

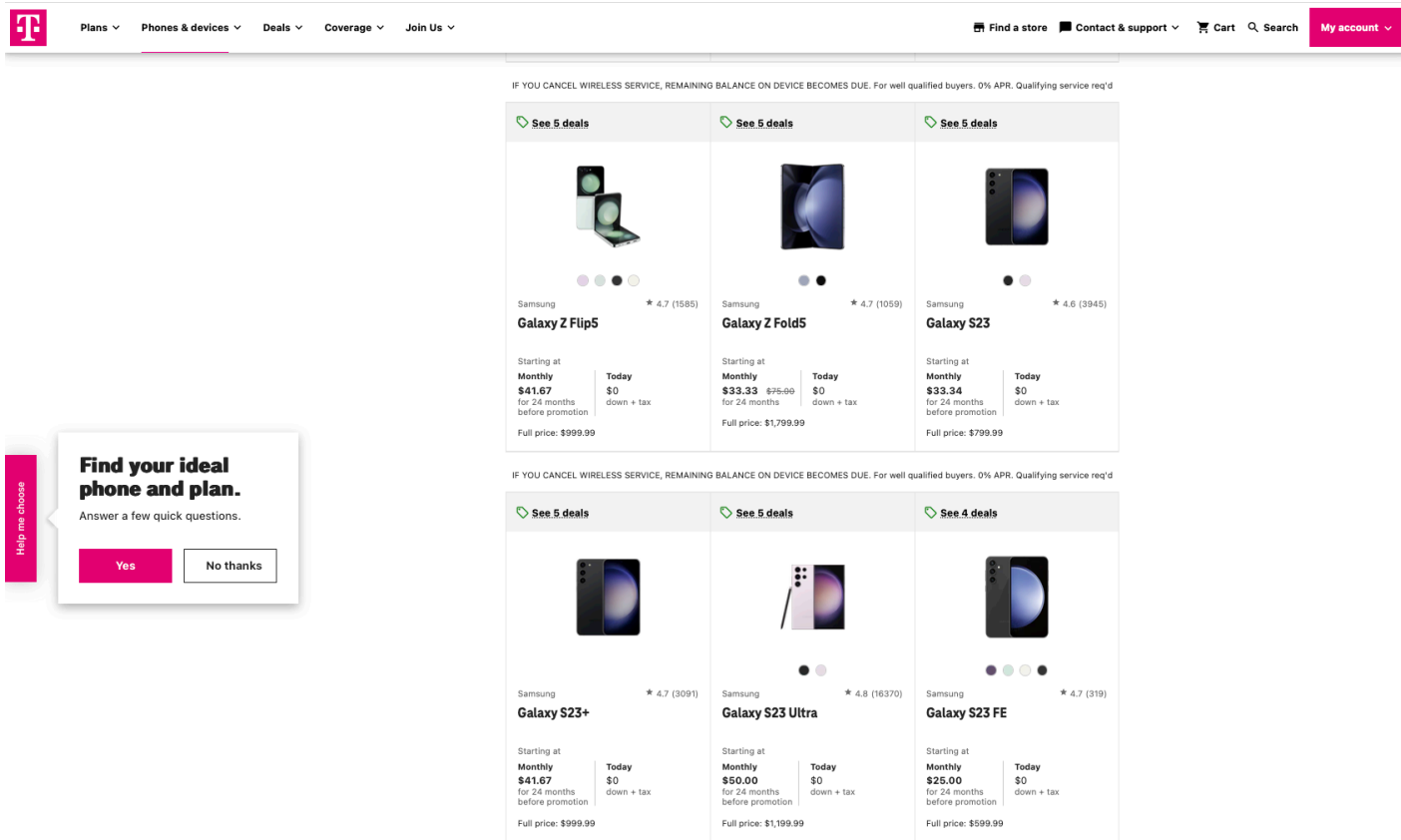
Today\$99.99

down + tax

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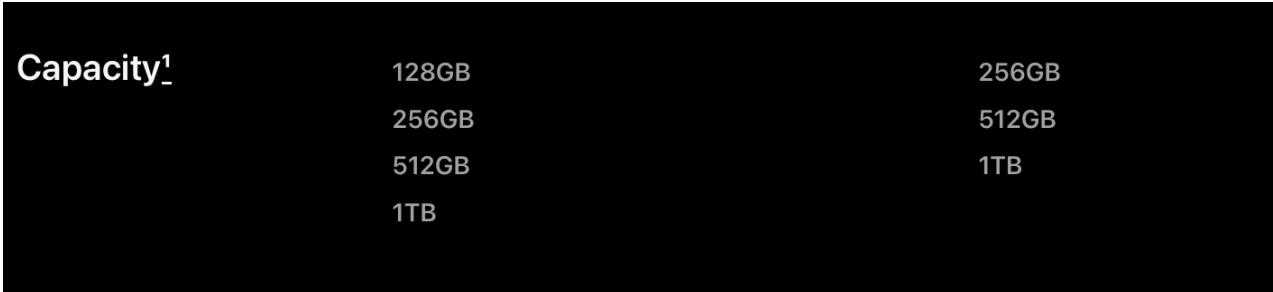
IF YOU CANCEL WIRELESS SERVICE, REMAINING BALANCE ON DEVICE BECOMES DUE. For well qualified buyers. 0% APR. Qualifying service req'd

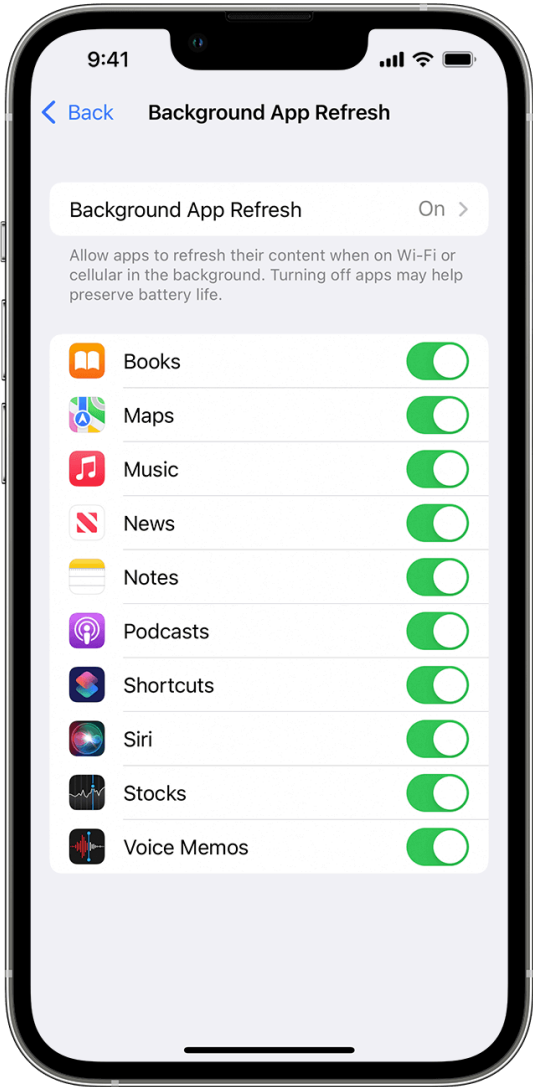
Want to add service?

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	<div><p>The screenshot displays the T-Mobile website's 'Phones &amp; devices' section. It features a grid of smartphone deals for Samsung models. Each deal card includes the phone's image, name, a star rating with the number of reviews, and pricing details. A pop-up window on the left side of the grid prompts the user to 'Find your ideal phone and plan.' by answering a few quick questions, with 'Yes' and 'No thanks' buttons.</p><table><tr><th>Model</th><th>Rating</th><th>Reviews</th><th>Starting at Monthly</th><th>Today</th><th>Full price</th></tr><tr><td>Galaxy Z Flip5</td><td>4.7</td><td>1585</td><td>\$41.67 for 24 months before promotion</td><td>\$0 down + tax</td><td>\$999.99</td></tr><tr><td>Galaxy Z Fold5</td><td>4.7</td><td>1059</td><td>\$33.33 for 24 months before promotion</td><td>\$0 down + tax</td><td>\$1,799.99</td></tr><tr><td>Galaxy S23</td><td>4.6</td><td>3945</td><td>\$33.34 for 24 months before promotion</td><td>\$0 down + tax</td><td>\$799.99</td></tr><tr><td>Galaxy S23+</td><td>4.7</td><td>3091</td><td>\$41.67 for 24 months before promotion</td><td>\$0 down + tax</td><td>\$999.99</td></tr><tr><td>Galaxy S23 Ultra</td><td>4.8</td><td>16370</td><td>\$50.00 for 24 months before promotion</td><td>\$0 down + tax</td><td>\$1,199.99</td></tr><tr><td>Galaxy S23 FE</td><td>4.7</td><td>319</td><td>\$25.00 for 24 months before promotion</td><td>\$0 down + tax</td><td>\$599.99</td></tr></table></div> <p>; see also <a href="https://www.t-mobile.com/tablets">https://www.t-mobile.com/tablets</a>; <a href="https://www.t-mobile.com/smart-watches">https://www.t-mobile.com/smart-watches</a>; <a href="https://www.t-mobile.com/hotspots-iot-connected-devices">https://www.t-mobile.com/hotspots-iot-connected-devices</a>.</p>	Model	Rating	Reviews	Starting at Monthly	Today	Full price	Galaxy Z Flip5	4.7	1585	\$41.67 for 24 months before promotion	\$0 down + tax	\$999.99	Galaxy Z Fold5	4.7	1059	\$33.33 for 24 months before promotion	\$0 down + tax	\$1,799.99	Galaxy S23	4.6	3945	\$33.34 for 24 months before promotion	\$0 down + tax	\$799.99	Galaxy S23+	4.7	3091	\$41.67 for 24 months before promotion	\$0 down + tax	\$999.99	Galaxy S23 Ultra	4.8	16370	\$50.00 for 24 months before promotion	\$0 down + tax	\$1,199.99	Galaxy S23 FE	4.7	319	\$25.00 for 24 months before promotion	\$0 down + tax	\$599.99
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	<p>to the WWAN.” This WWAN modem in the Accused Instrumentalities provides a connection to a T-Mobile’s wireless network.</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, are sold or used by T-Mobile and comprise a wireless modem for communicating with mobile service base stations. <i>See, e.g.,</i> <a href="https://www.apple.com/iphone-15-pro/specs/">https://www.apple.com/iphone-15-pro/specs/</a>:</p> <table><tr><td rowspan="3">Cellular and Wireless</td><td>Model A2848*</td><td>5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)  5G NR mmWave (Bands n258, n260, n261)  FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)  TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)  UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)  GSM/EDGE (850, 900, 1800, 1900 MHz)</td></tr><tr><td>Model A2849*</td><td>5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)  5G NR mmWave (Bands n258, n260, n261)  FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)  TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)  UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)  GSM/EDGE (850, 900, 1800, 1900 MHz)</td></tr><tr><td>All models</td><td>5G (sub-6 GHz and mmWave) with 4x4 MIMO<sup>9</sup>  Gigabit LTE with 4x4 MIMO and LAA<sup>9</sup>  Wi-Fi 6E (802.11ax) with 2x2 MIMO<sup>10</sup>  Bluetooth 5.3  Second-generation Ultra Wideband chip<sup>11</sup>  Thread networking technology  NFC with reader mode  Express Cards with power reserve</td></tr></table>	Cellular and Wireless	Model A2848*	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)  5G NR mmWave (Bands n258, n260, n261)  FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)  TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)  UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)  GSM/EDGE (850, 900, 1800, 1900 MHz)	Model A2849*	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)  5G NR mmWave (Bands n258, n260, n261)  FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)  TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)  UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)  GSM/EDGE (850, 900, 1800, 1900 MHz)	All models	5G (sub-6 GHz and mmWave) with 4x4 MIMO <sup>9</sup>  Gigabit LTE with 4x4 MIMO and LAA <sup>9</sup>  Wi-Fi 6E (802.11ax) with 2x2 MIMO <sup>10</sup>  Bluetooth 5.3  Second-generation Ultra Wideband chip <sup>11</sup>  Thread networking technology  NFC with reader mode  Express Cards with power reserve
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<b>Cellular and Wireless</b>	<table> <tr> <td data-bbox="877 477 1073 505"><b>Model A2848*</b></td><td data-bbox="1087 477 1738 737">                     5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)                      5G NR mmWave (Bands n258, n260, n261)                      FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)                      TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)                      UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)                      GSM/EDGE (850, 900, 1800, 1900 MHz)                 </td></tr> <tr> <td data-bbox="877 781 1073 808"><b>Model A2849*</b></td><td data-bbox="1087 781 1738 1040">                     5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79)                      5G NR mmWave (Bands n258, n260, n261)                      FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71)                      TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53)                      UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz)                      GSM/EDGE (850, 900, 1800, 1900 MHz)                 </td></tr> <tr> <td data-bbox="877 1084 1073 1112"><b>All models</b></td><td data-bbox="1087 1084 1738 1360">                     5G (sub-6 GHz and mmWave) with 4x4 MIMO<sup>9</sup>                      Gigabit LTE with 4x4 MIMO and LAA<sup>9</sup>                      Wi-Fi 6E (802.11ax) with 2x2 MIMO<sup>10</sup>                      Bluetooth 5.3                      Second-generation Ultra Wideband chip<sup>11</sup>                      Thread networking technology                      NFC with reader mode                      Express Cards with power reserve                 </td></tr> </table>	<b>Model A2848*</b>	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79) 5G NR mmWave (Bands n258, n260, n261) FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71) TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53) UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz) GSM/EDGE (850, 900, 1800, 1900 MHz)	<b>Model A2849*</b>	5G NR (Bands n1, n2, n3, n5, n7, n8, n12, n14, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79) 5G NR mmWave (Bands n258, n260, n261) FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 66, 71) TD-LTE (Bands 34, 38, 39, 40, 41, 42, 46, 48, 53) UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz) GSM/EDGE (850, 900, 1800, 1900 MHz)	<b>All models</b>	5G (sub-6 GHz and mmWave) with 4x4 MIMO <sup>9</sup> Gigabit LTE with 4x4 MIMO and LAA <sup>9</sup> Wi-Fi 6E (802.11ax) with 2x2 MIMO <sup>10</sup> Bluetooth 5.3 Second-generation Ultra Wideband chip <sup>11</sup> Thread networking technology NFC with reader mode Express Cards with power reserve		
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<b>All models</b>	5G (sub-6 GHz and mmWave) with 4x4 MIMO <sup>9</sup> Gigabit LTE with 4x4 MIMO and LAA <sup>9</sup> Wi-Fi 6E (802.11ax) with 2x2 MIMO <sup>10</sup> Bluetooth 5.3 Second-generation Ultra Wideband chip <sup>11</sup> Thread networking technology NFC with reader mode Express Cards with power reserve								

Claim	Public Documentation
<p>[1c] a non-transient memory to store</p>	<p>The Accused Instrumentalities include “a non-transient memory to store.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, comprise a memory. As a specific example, the iPhone 15 Pro sold or used by T-Mobile includes 128GB, 256GB, 512GB, or 1TB of memory storage, in which control policies for applications are stored. <i>See, e.g.</i>, <a href="https://www.apple.com/iphone-15-pro/specs/">https://www.apple.com/iphone-15-pro/specs/</a>:</p>  <p>The screenshot shows a black background with white text. On the left, the word 'Capacity' is followed by a list of storage options: 128GB, 256GB, 512GB, and 1TB. To the right of this list, the corresponding storage capacities are listed: 256GB, 512GB, and 1TB. The 128GB option is not explicitly listed on the right side of the screenshot.</p>
<p>[1d] a differential traffic control policy list distinguishing between a first one or more applications resident on the device and a second one or more applications and/or services resident on the device, and</p>	<p>The Accused Instrumentalities comprise “a differential traffic control policy list distinguishing between a first one or more applications resident on the device and a second one or more applications and/or services resident on the device.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, run the Apple iOS Operating System, which comprise at least Apple’s “Background App Refresh” and “Low Power Mode” features include policies which distinguish between applications and/or services. <i>See, e.g.</i>, <a href="https://support.apple.com/en-us/HT202070">https://support.apple.com/en-us/HT202070</a>:</p>

Claim	Public Documentation
	<div><div><div><h2>Use Background App Refresh</h2><p>After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content.</p><p>If you want suspended apps to check for new content, go to Settings &gt; General &gt; Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.</p><p><a href="https://support.apple.com/en-us/HT205234">https://support.apple.com/en-us/HT205234</a>:</p></div></div><div></div></div>



# Use Low Power Mode to save battery life on your iPhone or iPad


Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

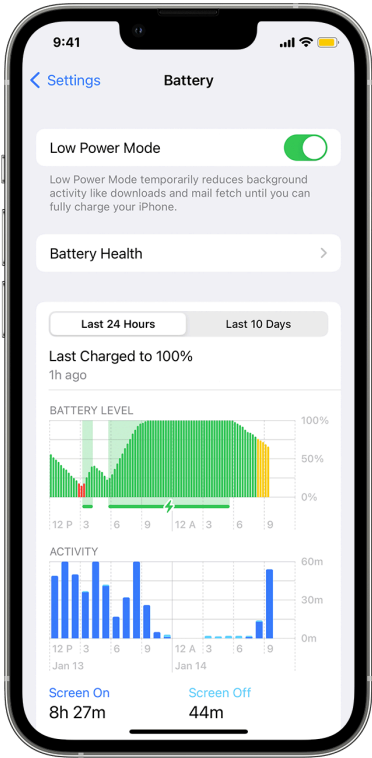
To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

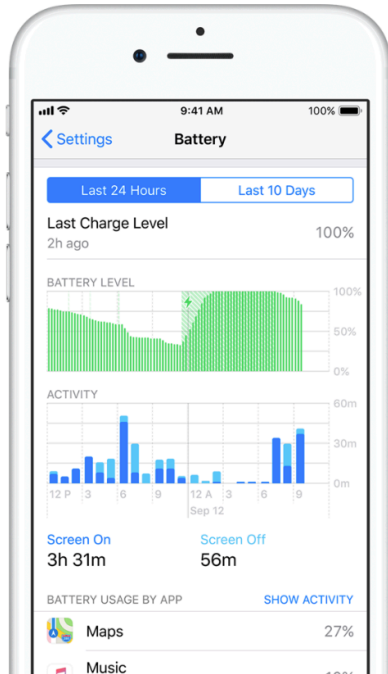
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models<sup>1</sup>
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display<sup>2</sup>
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon  and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.

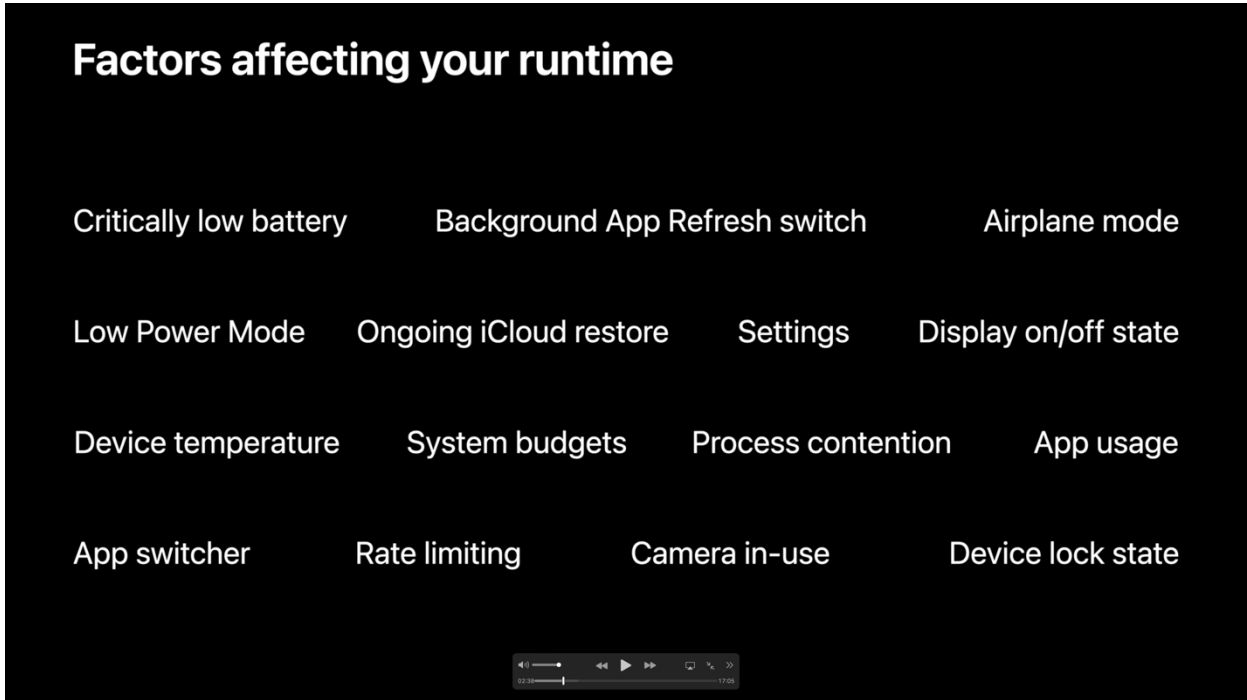









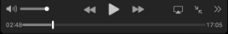

1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

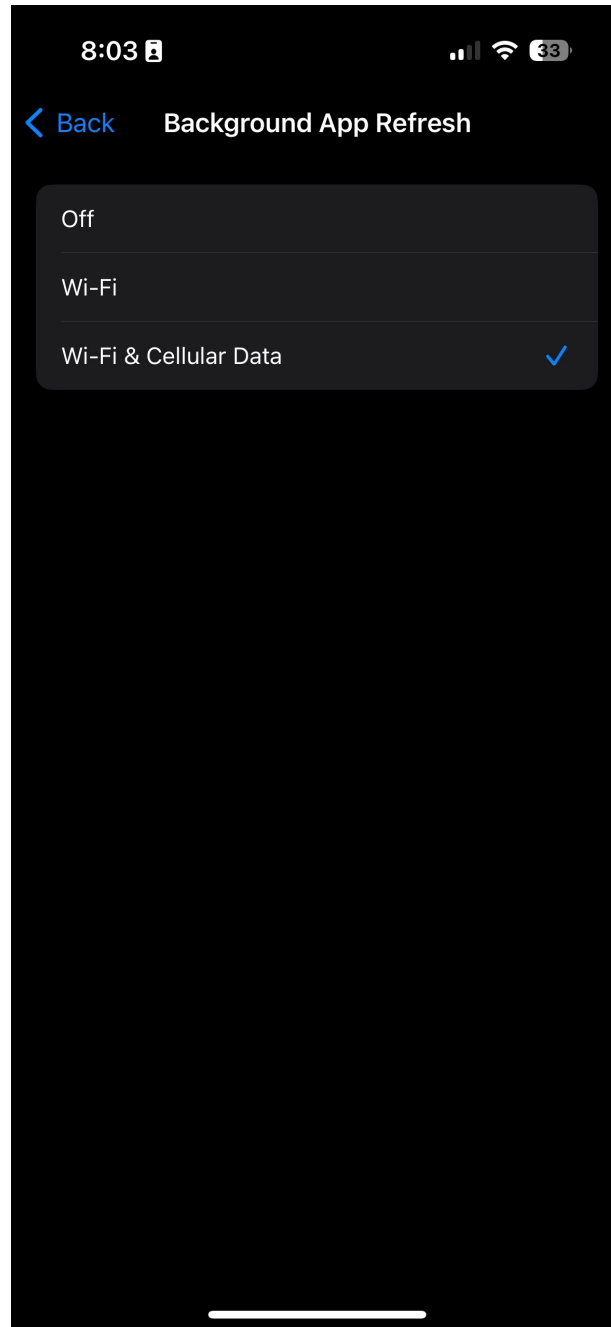
2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	<p data-bbox="583 240 1350 272"><a href="https://www.apple.com/batteries/maximizing-performance/">https://www.apple.com/batteries/maximizing-performance/</a>:</p> <h2 data-bbox="625 302 1396 358">View Battery Usage information</h2> <p data-bbox="625 375 1316 500">With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings &gt; Battery.</p> <p data-bbox="625 524 1293 581">Here are the messages you may see listed below the apps you've been using:</p> <p data-bbox="625 654 1293 743"><b>Background Activity.</b> This indicates that the battery was used by the app while it was in the background — that is, while you were using another app.</p> <ul data-bbox="657 776 1316 1024" style="list-style-type: none"> <li data-bbox="657 776 1316 901">• To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings &gt; General &gt; Background App Refresh and select Wi-Fi, Wi-Fi &amp; Cellular Data, or Off to turn off Background App Refresh entirely.</li> <li data-bbox="657 933 1283 1024">• If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings &gt; Accounts &amp; Passwords &gt; Fetch New Data.</li> </ul>  <p data-bbox="583 1068 1988 1357">; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/">https://developer.apple.com/documentation/backgroundtasks/</a>; <a href="https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/">https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/</a>; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-</a></p>

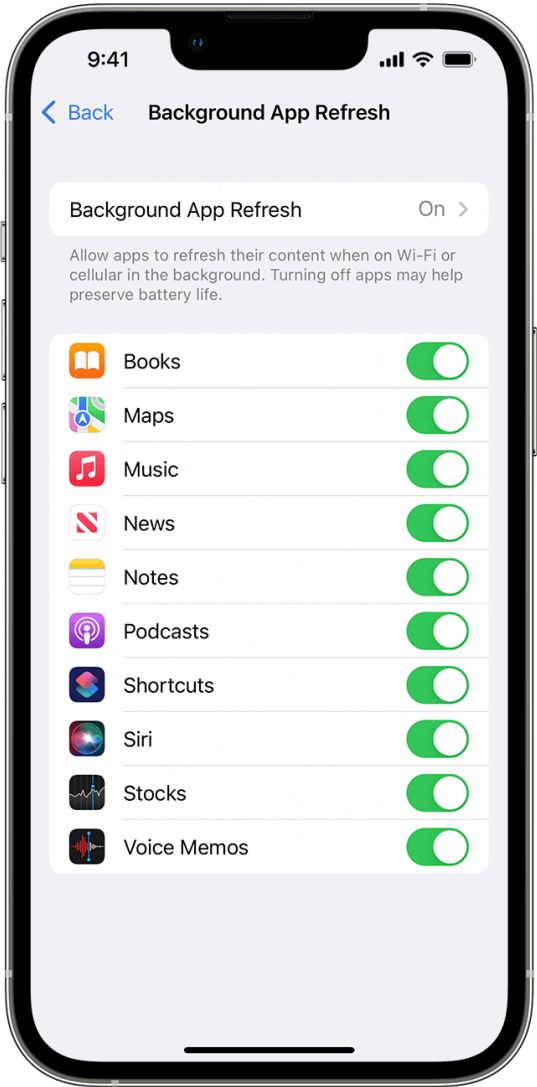
Claim	Public Documentation
	<p> <a href="https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/">ing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask;">https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgprocesstask;">https://developer.apple.com/documentation/backgroundtasks/bgprocesstask;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgtask;">https://developer.apple.com/documentation/backgroundtasks/bgtask;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/">https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/">https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate;">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/state;">https://developer.apple.com/documentation/uikit/uiapplication/state;</a> <a href="https://developer.apple.com/documentation/foundation/url_loading_system;">https://developer.apple.com/documentation/foundation/url_loading_system;</a> <a href="https://developer.apple.com/documentation/foundation/urlsession;">https://developer.apple.com/documentation/foundation/urlsession;</a> <a href="https://developer.apple.com/documentation/device-management/mail;">https://developer.apple.com/documentation/device-management/mail;</a> <a href="https://developer.apple.com/documentation/security/secure_transport/using_the_secure_socket_layer_for_network_communication/">https://developer.apple.com/documentation/security/secure_transport/using_the_secure_socket_layer_for_network_communication/;</a> <a href="https://developer.apple.com/documentation/networkextension/personal_vpn;">https://developer.apple.com/documentation/networkextension/personal_vpn;</a> <a href="https://developer.apple.com/documentation/foundation/nsproxy;">https://developer.apple.com/documentation/foundation/nsproxy;</a> <a href="https://developer.apple.com/documentation/messages/">https://developer.apple.com/documentation/messages/;</a> <a href="https://developer.apple.com/documentation/avfoundation/avplayer;">https://developer.apple.com/documentation/avfoundation/avplayer;</a> <a href="https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback/">https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback/;</a> <a href="https://developer.apple.com/videos/play/wwdc2019/707/">https://developer.apple.com/videos/play/wwdc2019/707/;</a> <a href="https://developer.apple.com/videos/play/wwdc2020/10063/">https://developer.apple.com/videos/play/wwdc2020/10063/;</a> </p>

Claim	Public Documentation
	 <p><b>Factors affecting your runtime</b></p> <p>Critically low battery      Background App Refresh switch      Airplane mode</p> <p>Low Power Mode      Ongoing iCloud restore      Settings      Display on/off state</p> <p>Device temperature      System budgets      Process contention      App usage</p> <p>App switcher      Rate limiting      Camera in-use      Device lock state</p> <p>02:08 / 17:08</p>

Claim	Public Documentation
	<div data-bbox="583 237 1822 935"><h3>Top factors</h3><ul style="list-style-type: none"><li> Critically low battery</li><li> Low Power Mode</li><li> App usage</li><li> App switcher</li><li> Background App Refresh switch</li><li> System budgets</li><li> Rate limiting</li></ul></div> <p data-bbox="583 938 1108 974">; see also exemplary screen shots below:</p>



Claim	Public Documentation
	 <p>The image shows three Apple Watch screens side-by-side. The first screen is the 'Settings' menu, showing options for General, Do Not Disturb, and Airplane Mode. The second screen is the 'General' settings page, showing options for Software Update, Orientation, Background App Refresh, and Wake Screen. The third screen is the 'Background App Refresh' settings page, showing a toggle switch for 'Background App Refresh' which is currently turned off. Below the toggle, there is explanatory text about how turning off this feature may preserve battery life.</p> <p>See also, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>.</p>
<p>[1e] a differential traffic control policy applicable to at least some Internet service activities by or on behalf of the first one or more applications;</p>	<p>The Accused Instrumentalities comprises “a differential traffic control policy applicable to at least some Internet service activities by or on behalf of the first one or more applications.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, run the Apple iOS Operating System, which comprise at least Apple’s “Background App Refresh” and “Low Power Mode” features include policies which apply to at least some activities by or on behalf of applications and/or services. See, e.g., <a href="https://support.apple.com/en-us/HT202070">https://support.apple.com/en-us/HT202070</a>:</p>

Claim	Public Documentation
	<div data-bbox="604 305 1297 363"><h2>Use Background App Refresh</h2></div> <div data-bbox="604 391 1377 639"><p>After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content.</p></div> <div data-bbox="604 672 1373 878"><p>If you want suspended apps to check for new content, go to Settings &gt; General &gt; Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.</p></div> <div data-bbox="583 1377 1144 1412"><p><a href="https://support.apple.com/en-us/HT205234">https://support.apple.com/en-us/HT205234</a>:</p></div> <div data-bbox="1436 261 1969 1341"></div>



## Use Low Power Mode to save battery life on your iPhone or iPad


Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

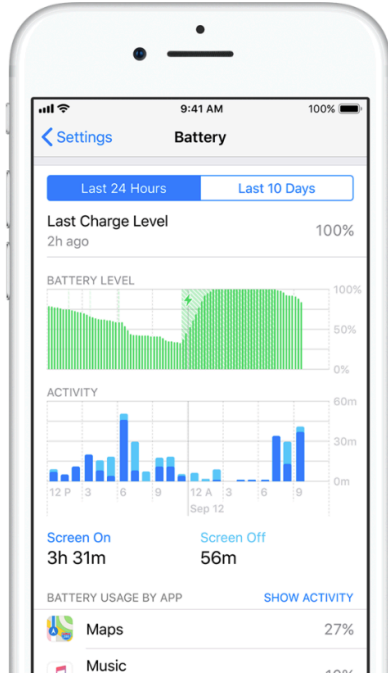
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models<sup>1</sup>
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display<sup>2</sup>
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon  and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.

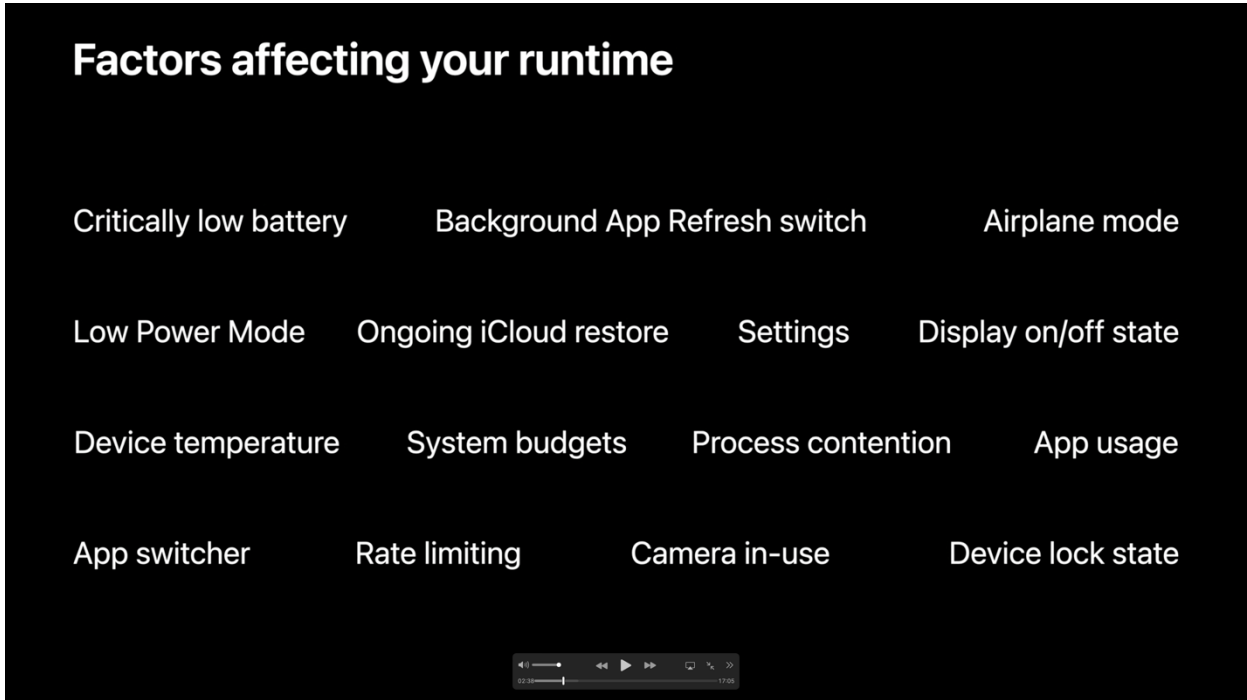









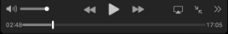

1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

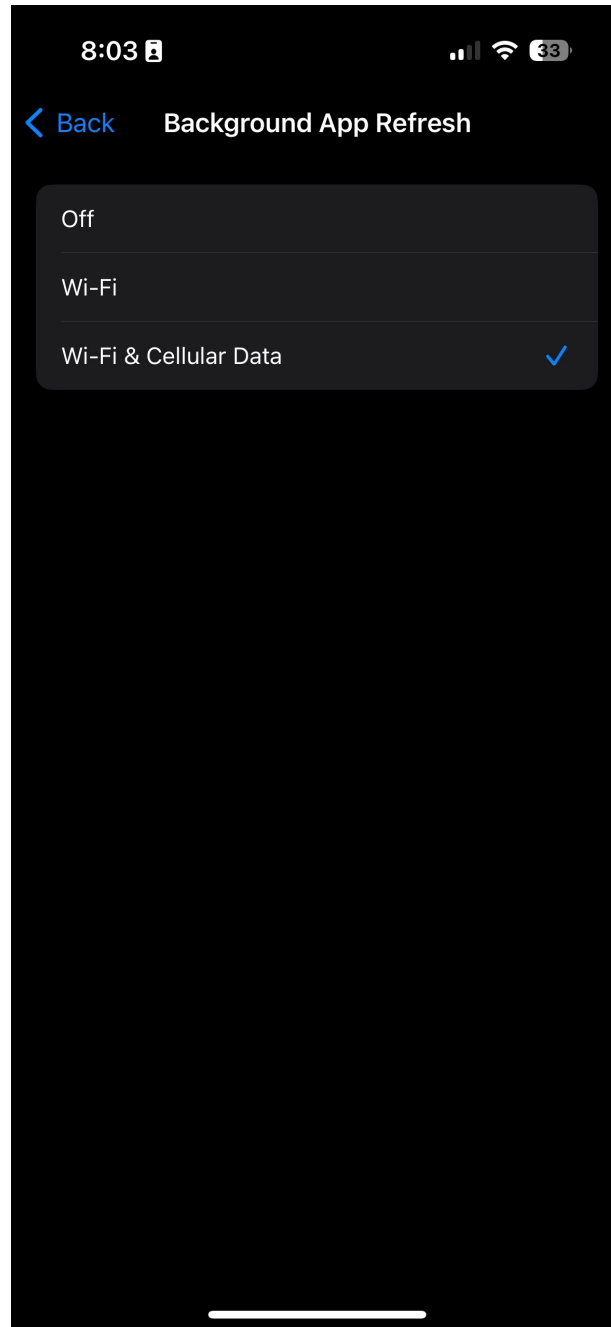
2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	<p><a href="https://www.apple.com/batteries/maximizing-performance/">https://www.apple.com/batteries/maximizing-performance/</a>:</p> <h2 data-bbox="625 305 1396 358">View Battery Usage information</h2> <p data-bbox="625 378 1316 500">With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings &gt; Battery.</p> <p data-bbox="625 527 1293 584">Here are the messages you may see listed below the apps you've been using:</p> <p data-bbox="625 654 1293 743"><b>Background Activity.</b> This indicates that the battery was used by the app while it was in the background — that is, while you were using another app.</p> <ul data-bbox="657 776 1316 1023" style="list-style-type: none"> <li>• To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings &gt; General &gt; Background App Refresh and select Wi-Fi, Wi-Fi &amp; Cellular Data, or Off to turn off Background App Refresh entirely.</li> <li>• If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings &gt; Accounts &amp; Passwords &gt; Fetch New Data.</li> </ul>  <p data-bbox="583 1068 1988 1356">; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/">https://developer.apple.com/documentation/backgroundtasks/</a>; <a href="https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/">https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/</a>; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-</a></p>

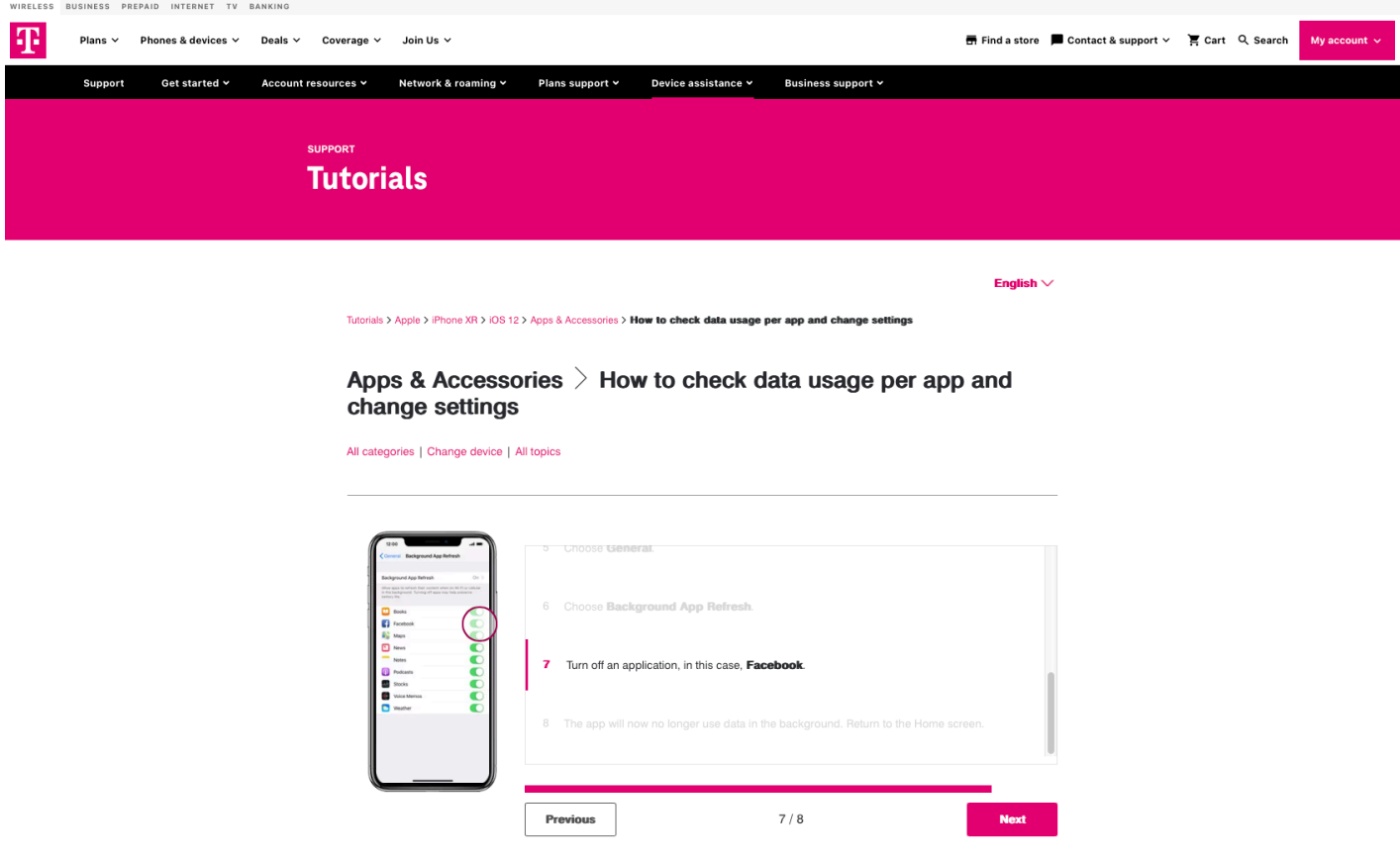
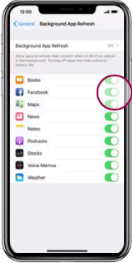
Claim	Public Documentation
	<p> <a href="https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/">ing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgappprefreshtask;">https://developer.apple.com/documentation/backgroundtasks/bgappprefreshtask;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgprocesstask;">https://developer.apple.com/documentation/backgroundtasks/bgprocesstask;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgtask;">https://developer.apple.com/documentation/backgroundtasks/bgtask;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/">https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/">https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate;">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/state;">https://developer.apple.com/documentation/uikit/uiapplication/state;</a> <a href="https://developer.apple.com/documentation/foundation/url_loading_system;">https://developer.apple.com/documentation/foundation/url_loading_system;</a> <a href="https://developer.apple.com/documentation/foundation/urlsession;">https://developer.apple.com/documentation/foundation/urlsession;</a> <a href="https://developer.apple.com/documentation/devicemanagement/mail;">https://developer.apple.com/documentation/devicemanagement/mail;</a> <a href="https://developer.apple.com/documentation/security/secure_transport/using_the_secure_socket_layer_for_network_communication/">https://developer.apple.com/documentation/security/secure_transport/using_the_secure_socket_layer_for_network_communication/;</a> <a href="https://developer.apple.com/documentation/networkextension/personal_vpn;">https://developer.apple.com/documentation/networkextension/personal_vpn;</a> <a href="https://developer.apple.com/documentation/foundation/nsproxy;">https://developer.apple.com/documentation/foundation/nsproxy;</a> <a href="https://developer.apple.com/documentation/messages/">https://developer.apple.com/documentation/messages/;</a> <a href="https://developer.apple.com/documentation/avfoundation/avplayer;">https://developer.apple.com/documentation/avfoundation/avplayer;</a> <a href="https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback/">https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback/;</a> <a href="https://developer.apple.com/videos/play/wwdc2019/707/">https://developer.apple.com/videos/play/wwdc2019/707/;</a> <a href="https://developer.apple.com/videos/play/wwdc2020/10063/">https://developer.apple.com/videos/play/wwdc2020/10063/;</a> </p>

Claim	Public Documentation
	 <p>The screenshot shows a video player interface with a black background and white text. The title 'Factors affecting your runtime' is at the top. Below it, a grid of factors is displayed:</p> <ul style="list-style-type: none"><li>Critically low battery</li><li>Background App Refresh switch</li><li>Airplane mode</li><li>Low Power Mode</li><li>Ongoing iCloud restore</li><li>Settings</li><li>Display on/off state</li><li>Device temperature</li><li>System budgets</li><li>Process contention</li><li>App usage</li><li>App switcher</li><li>Rate limiting</li><li>Camera in-use</li><li>Device lock state</li></ul> <p>A video player control bar is visible at the bottom of the screenshot, showing a progress bar and a timestamp of 02:18 / 17:08.</p>

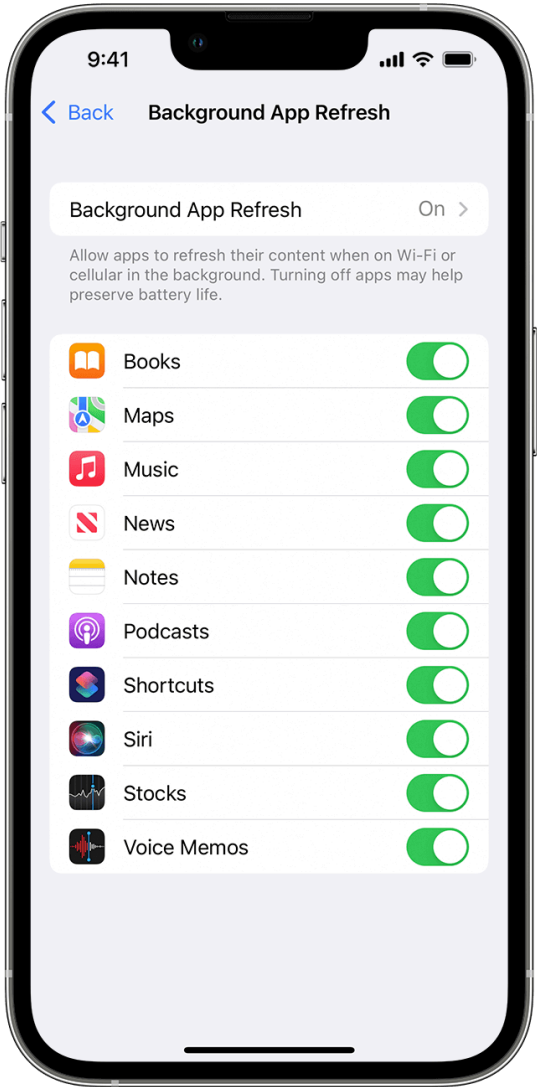
Claim	Public Documentation
	<div data-bbox="583 237 1822 935"><h3>Top factors</h3><ul style="list-style-type: none"><li> Critically low battery</li><li> Low Power Mode</li><li> App usage</li><li> App switcher</li><li> Background App Refresh switch</li><li> System budgets</li><li> Rate limiting</li></ul></div> <p data-bbox="583 938 1108 974">; see also exemplary screen shots below:</p>



Claim	Public Documentation
	 <p>The image shows three Apple Watch screens side-by-side. The first screen is the 'Settings' menu, showing options for General, Do Not Disturb, and Airplane Mode. The second screen is the 'General' settings menu, showing options for Software Update, Orientation, Background App Refresh, and Wake Screen. The third screen is the 'Background App Refresh' settings menu, showing a toggle switch for 'Background App Refresh' which is currently turned off. Below the toggle, there is a warning message: 'Turning off Background App Refresh may preserve battery life. Apps with complications on the current watch face will continue to refresh, even when their background app refresh setting is off.'</p> <p>See also, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>.</p>
<p>[1f] an interface to allow a user to augment the differential traffic control policy for the first one or more applications but not for the second one or more applications and/or services; and</p>	<p>The Accused Instrumentalities include “an interface to allow a user to augment the differential traffic control policy for the first one or more applications but not for the second one or more applications and/or services.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, sold or used by T-Mobile include an interface which allow users to augment policies and settings for some applications and/or services, but not all applications and/or services (e.g., system services). See, e.g., <a href="https://www.t-mobile.com/support/tutorials/device/apple/iphone-xr/topic/apps-amp-accessories/how-to-check-data-usage-per-app-and-change-settings/7">https://www.t-mobile.com/support/tutorials/device/apple/iphone-xr/topic/apps-amp-accessories/how-to-check-data-usage-per-app-and-change-settings/7</a></p>

Claim	Public Documentation
	 <p>WIRELESS BUSINESS PREPAID INTERNET TV BANKING</p> <p><b>T</b> Plans ▾ Phones &amp; devices ▾ Deals ▾ Coverage ▾ Join Us ▾</p> <p>Find a store Contact &amp; support ▾ Cart Search My account ▾</p> <p>Support Get started ▾ Account resources ▾ Network &amp; roaming ▾ Plans support ▾ Device assistance ▾ Business support ▾</p> <p>SUPPORT</p> <h2>Tutorials</h2> <p>English ▾</p> <p>Tutorials &gt; Apple &gt; iPhone XR &gt; iOS 12 &gt; Apps &amp; Accessories &gt; How to check data usage per app and change settings</p> <h3>Apps &amp; Accessories &gt; How to check data usage per app and change settings</h3> <p>All categories   Change device   All topics</p>  <p>6 Choose Background App Refresh.</p> <p>7 Turn off an application, in this case, <b>Facebook</b>.</p> <p>8 The app will now no longer use data in the background. Return to the Home screen.</p> <p>Previous 7 / 8 Next</p> <p>; <a href="https://support.apple.com/en-us/HT202070">https://support.apple.com/en-us/HT202070</a>:</p>



Claim	Public Documentation
	<div data-bbox="604 305 1297 363"><h2>Use Background App Refresh</h2></div> <div data-bbox="604 391 1377 639"><p>After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content.</p></div> <div data-bbox="604 672 1373 878"><p>If you want suspended apps to check for new content, go to Settings &gt; General &gt; Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.</p></div> <div data-bbox="583 1377 1144 1412"><p><a href="https://support.apple.com/en-us/HT205234">https://support.apple.com/en-us/HT205234</a>:</p></div> <div data-bbox="1436 261 1969 1341"></div>

## Use Low Power Mode to save battery life on your iPhone or iPad


Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

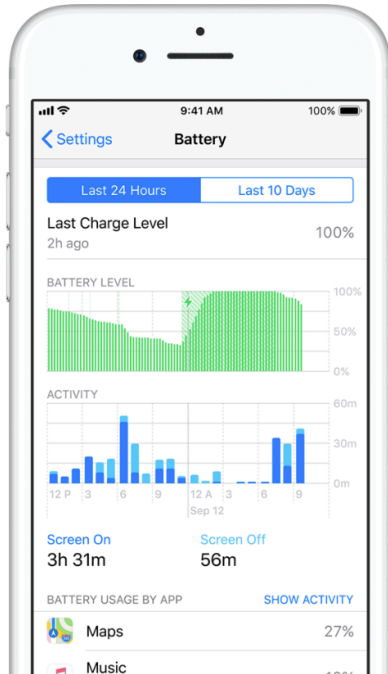
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models<sup>1</sup>
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display<sup>2</sup>
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon  and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.












1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).


2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

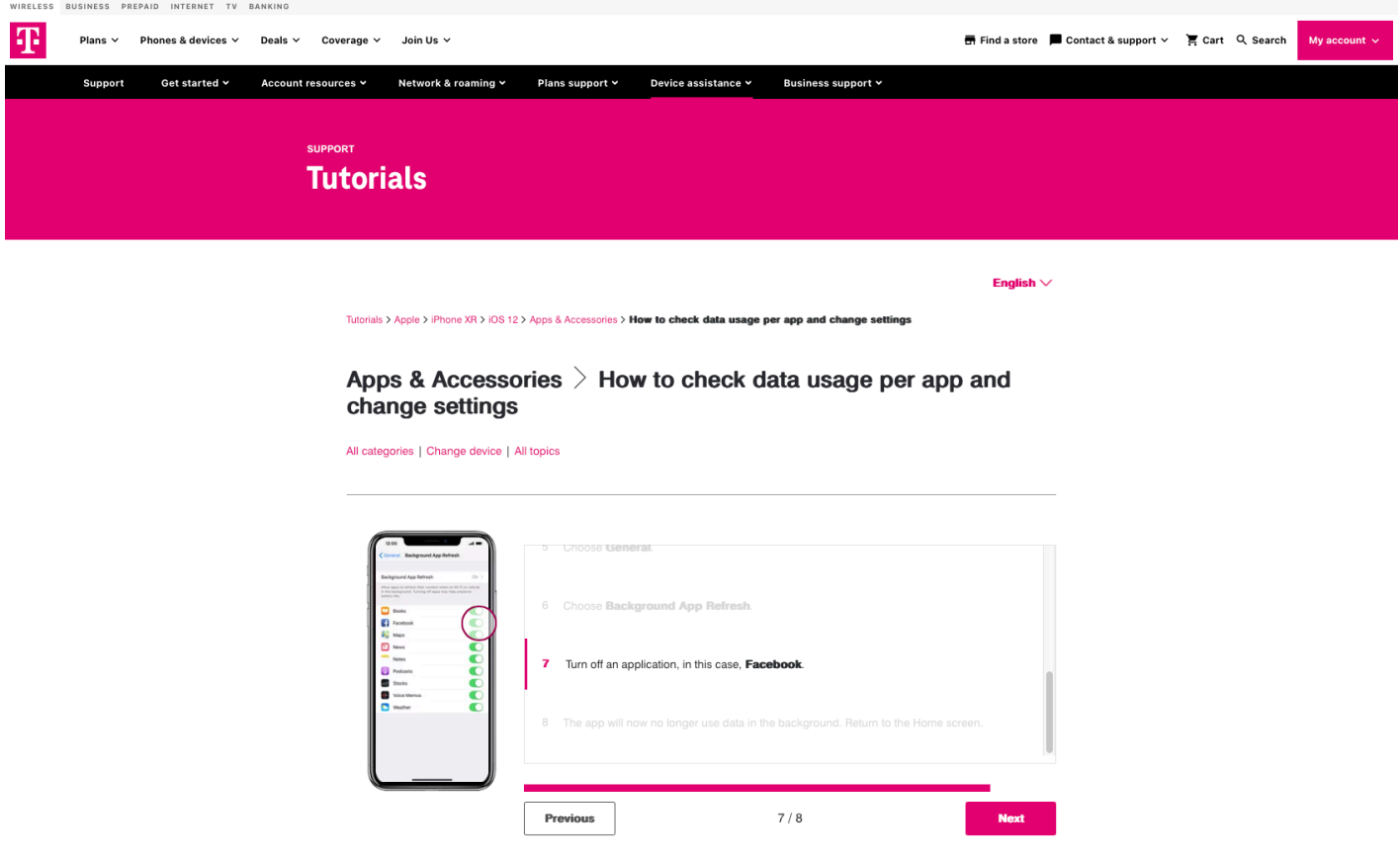
Claim	Public Documentation
	<p data-bbox="583 240 1350 272"><a href="https://www.apple.com/batteries/maximizing-performance/">https://www.apple.com/batteries/maximizing-performance/</a>:</p> <h2 data-bbox="625 302 1396 358">View Battery Usage information</h2> <p data-bbox="625 375 1316 500">With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings &gt; Battery.</p> <p data-bbox="625 526 1293 583">Here are the messages you may see listed below the apps you've been using:</p> <p data-bbox="625 654 1293 743"><b>Background Activity.</b> This indicates that the battery was used by the app while it was in the background — that is, while you were using another app.</p> <ul data-bbox="657 776 1316 1024" style="list-style-type: none"> <li data-bbox="657 776 1316 901">• To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings &gt; General &gt; Background App Refresh and select Wi-Fi, Wi-Fi &amp; Cellular Data, or Off to turn off Background App Refresh entirely.</li> <li data-bbox="657 933 1283 1024">• If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings &gt; Accounts &amp; Passwords &gt; Fetch New Data.</li> </ul>  <p data-bbox="583 1068 1988 1356">; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/">https://developer.apple.com/documentation/backgroundtasks/</a>; <a href="https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/">https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/</a>; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/prepar-</a></p>

Claim	Public Documentation															
	<p><a href="https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/">ing your ui to run in the background/using background tasks to update your app/;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgappprefreshtask;">https://developer.apple.com/documentation/backgroundtasks/bgappprefreshtask;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask;">https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask;</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgtask;">https://developer.apple.com/documentation/backgroundtasks/bgtask;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/">https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/">https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate;">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate;</a> <a href="https://developer.apple.com/documentation/uikit/uiapplication/state;">https://developer.apple.com/documentation/uikit/uiapplication/state;</a> <a href="https://developer.apple.com/documentation/foundation/url_loading_system;">https://developer.apple.com/documentation/foundation/url_loading_system;</a> <a href="https://developer.apple.com/documentation/foundation/urlsession;">https://developer.apple.com/documentation/foundation/urlsession;</a> <a href="https://developer.apple.com/documentation/avfoundation/avplayer;">https://developer.apple.com/documentation/avfoundation/avplayer;</a> <a href="https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback/">https://developer.apple.com/documentation/avfoundation/media_playback/configuring your app for media playback/;</a> <a href="https://developer.apple.com/videos/play/wwdc2019/707/">https://developer.apple.com/videos/play/wwdc2019/707/;</a> <a href="https://developer.apple.com/videos/play/wwdc2020/10063/">https://developer.apple.com/videos/play/wwdc2020/10063/;</a></p> <div><h2>Factors affecting your runtime</h2><table><tr><td>Critically low battery</td><td>Background App Refresh switch</td><td>Airplane mode</td></tr><tr><td>Low Power Mode</td><td>Ongoing iCloud restore</td><td>Settings</td><td>Display on/off state</td></tr><tr><td>Device temperature</td><td>System budgets</td><td>Process contention</td><td>App usage</td></tr><tr><td>App switcher</td><td>Rate limiting</td><td>Camera in-use</td><td>Device lock state</td></tr></table></div>	Critically low battery	Background App Refresh switch	Airplane mode	Low Power Mode	Ongoing iCloud restore	Settings	Display on/off state	Device temperature	System budgets	Process contention	App usage	App switcher	Rate limiting	Camera in-use	Device lock state
Critically low battery	Background App Refresh switch	Airplane mode														
Low Power Mode	Ongoing iCloud restore	Settings	Display on/off state													
Device temperature	System budgets	Process contention	App usage													
App switcher	Rate limiting	Camera in-use	Device lock state													

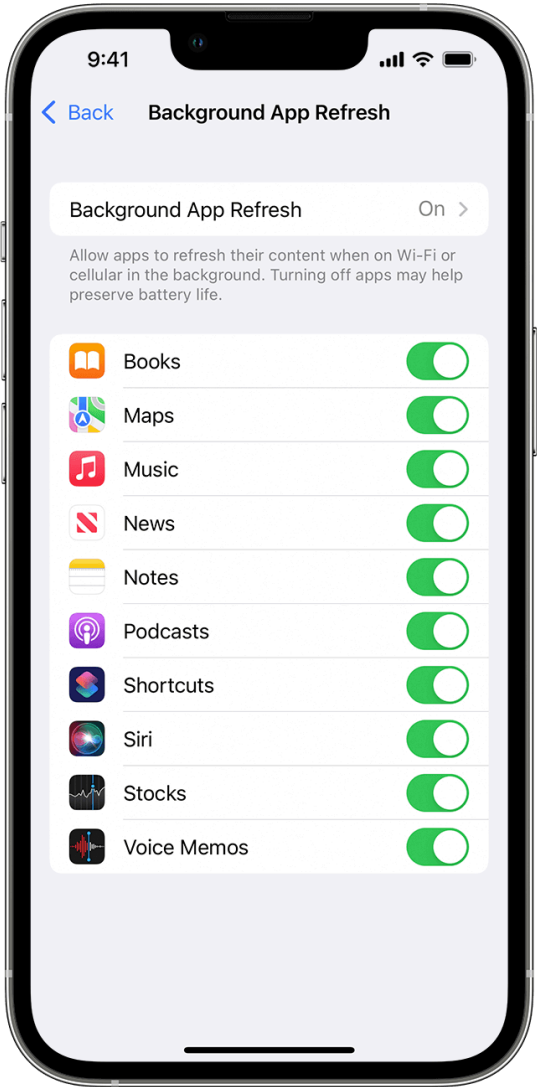
Claim	Public Documentation
	<div data-bbox="583 237 1822 933"><h3>Top factors</h3><ul style="list-style-type: none"><li> Critically low battery</li><li> Low Power Mode</li><li> App usage</li><li> App switcher</li><li> Background App Refresh switch</li><li> System budgets</li><li> Rate limiting</li></ul></div>

Claim	Public Documentation
	 <p>As yet another example, the Accused Instrumentalities determine aspects of policies based on information from a network element. <i>See also</i>, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>; <a href="https://www.t-mobile.com/apps/t-mobile-app">https://www.t-mobile.com/apps/t-mobile-app</a>; <a href="https://www.t-mobile.com/apps/t-mobile-family-mode">https://www.t-mobile.com/apps/t-mobile-family-mode</a>; <a href="https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings">https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings</a>; <a href="https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings">https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings</a>.</p>
[1g] one or more processors configured to	<p>The Accused Instrumentalities include “one or more processors.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, comprise one or more processors. As a specific example, the iPhone 15 Pro has an A17 Pro Chip. <i>See</i>, e.g., <a href="https://www.apple.com/iphone-15-pro/specs/">https://www.apple.com/iphone-15-pro/specs/</a></p>

Claim	Public Documentation
	<div data-bbox="585 238 1827 527"><div data-bbox="594 305 663 337">Chip</div><div data-bbox="924 310 1089 475">A17 PRO</div><div data-bbox="1169 313 1766 459"><p>A17 Pro chip</p><p>New 6-core CPU with 2 performance and 4 efficiency cores</p><p>New 6-core GPU</p><p>New 16-core Neural Engine</p></div></div>
<p>[1h] classify a wireless network to which the device currently connects in order to communicate data for Internet service activities as at least one of a plurality of network types that the device can connect with,</p>	<p>The Accused Instrumentalities “classify a wireless network to which the device currently connects in order to communicate data for Internet service activities as at least one of a plurality of network types that the device can connect with.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, sold and used by T-Mobile classify wireless network connections for communicating internet service activities. <i>See, e.g.</i>, <a href="https://www.t-mobile.com/support/tutorials/device/apple/iphone-xr/topic/apps-amp-accessories/how-to-check-data-usage-per-app-and-change-settings/7">https://www.t-mobile.com/support/tutorials/device/apple/iphone-xr/topic/apps-amp-accessories/how-to-check-data-usage-per-app-and-change-settings/7</a></p>

Claim	Public Documentation
	 <p data-bbox="583 1104 1163 1143">; <a href="https://support.apple.com/en-us/HT202070">https://support.apple.com/en-us/HT202070</a>:</p>



Claim	Public Documentation
	<div data-bbox="604 305 1297 363"><h2>Use Background App Refresh</h2></div> <div data-bbox="604 391 1377 639"><p>After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content.</p></div> <div data-bbox="604 672 1373 878"><p>If you want suspended apps to check for new content, go to Settings &gt; General &gt; Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.</p></div> <div data-bbox="583 1377 1144 1412"><p><a href="https://support.apple.com/en-us/HT205234">https://support.apple.com/en-us/HT205234</a>:</p></div> <div data-bbox="1436 261 1969 1341"></div>

## Use Low Power Mode to save battery life on your iPhone or iPad


Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

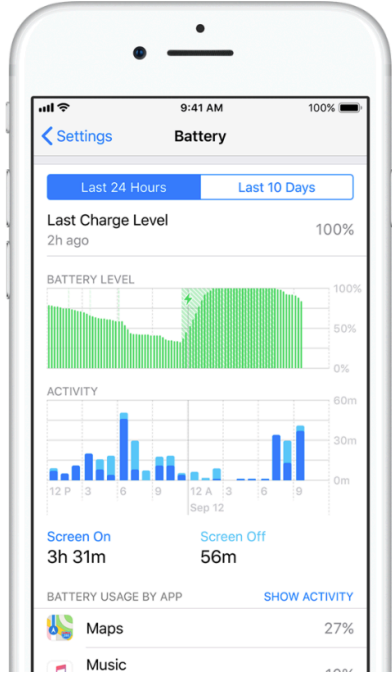
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models<sup>1</sup>
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display<sup>2</sup>
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon  and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.



1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).










2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	<p><a href="https://www.apple.com/batteries/maximizing-performance/">https://www.apple.com/batteries/maximizing-performance/</a>:</p> <h2 data-bbox="625 305 1396 358">View Battery Usage information</h2> <p data-bbox="625 378 1316 500">With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings &gt; Battery.</p> <p data-bbox="625 527 1293 584">Here are the messages you may see listed below the apps you've been using:</p> <p data-bbox="625 656 1293 745"><b>Background Activity.</b> This indicates that the battery was used by the app while it was in the background — that is, while you were using another app.</p> <ul data-bbox="657 777 1316 1024" style="list-style-type: none"> <li>• To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings &gt; General &gt; Background App Refresh and select Wi-Fi, Wi-Fi &amp; Cellular Data, or Off to turn off Background App Refresh entirely.</li> <li>• If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings &gt; Accounts &amp; Passwords &gt; Fetch New Data.</li> </ul>  <p data-bbox="585 1068 1734 1101">; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>:</p>

Claim	Public Documentation
	<p data-bbox="621 250 865 280">Instance Property</p> <h2 data-bbox="621 318 1031 375">applicationState</h2> <p data-bbox="621 399 1329 430">The app's current state, or that of its most active scene.</p> <div data-bbox="621 472 1388 503"> <span>iOS 4.0+</span> <span>iPadOS 4.0+</span> <span>Mac Catalyst 13.1+</span> <span>tvOS 9.0+</span> <span>visionOS 1.0+ Beta</span> </div> <pre data-bbox="642 565 1283 587">var applicationState: UIApplication.State { get }</pre> <hr data-bbox="621 662 1955 669"/> <h2 data-bbox="621 727 852 771">Discussion</h2> <p data-bbox="621 800 1463 828">The behavior of this property depends on whether your app is scene-based.</p> <p data-bbox="621 855 1944 990">In a scene-based app, this property takes the value of the most active scene, which it determines from each scene's <a href="#">activationState</a> property. A scene-based app launches in the background state, and transitions between its states as scenes connect, change their states, and disconnect. For scene-based apps, use <a href="#">UISceneDelegate</a> to respond to changes in an individual scene's life cycle.</p> <p data-bbox="621 1019 1955 1192">In a sceneless app, the property's value is always the app's current state. The app is inactive at launch, and then is generally in either an active or background state. The app may become inactive for a short period — for example, when transitioning between active and background states, when the system presents an alert in front of it, or when the system displays the application switcher. For sceneless apps, use <a href="#">UIApplicationDelegate</a> to respond to the app's life cycle changes.</p> <p data-bbox="583 1206 1988 1421">; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/">https://developer.apple.com/documentation/backgroundtasks/</a>;</p>

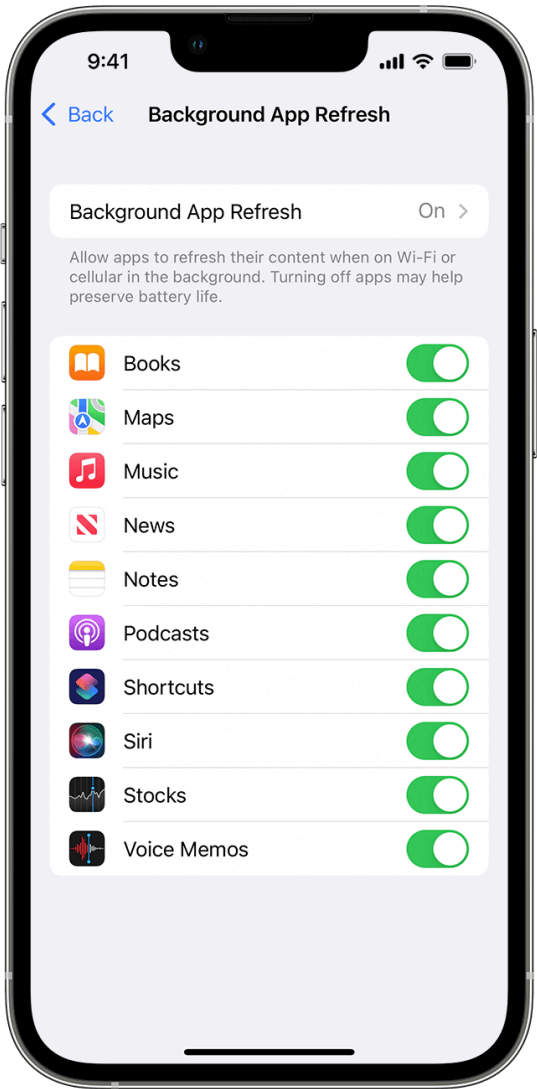
Claim	Public Documentation
	<p><a href="https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/">https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/</a>; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/">https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks">https://developer.apple.com/documentation/backgroundtasks</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask">https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask">https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgtask">https://developer.apple.com/documentation/backgroundtasks/bgtask</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/">https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/">https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/state">https://developer.apple.com/documentation/uikit/uiapplication/state</a>; <a href="https://developer.apple.com/documentation/foundation/url_loading_system">https://developer.apple.com/documentation/foundation/url_loading_system</a>; <a href="https://developer.apple.com/documentation/foundation/urlsession">https://developer.apple.com/documentation/foundation/urlsession</a>; <a href="https://developer.apple.com/documentation/avfoundation/avplayer">https://developer.apple.com/documentation/avfoundation/avplayer</a>; <a href="https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback">https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback</a>; <a href="https://developer.apple.com/videos/play/wwdc2019/707/">https://developer.apple.com/videos/play/wwdc2019/707/</a>; <a href="https://developer.apple.com/videos/play/wwdc2020/10063">https://developer.apple.com/videos/play/wwdc2020/10063</a>;</p>

Claim	Public Documentation
	<div data-bbox="585 237 1820 933"><h3>Factors affecting your runtime</h3><div><div>Critically low battery</div><div>Background App Refresh switch</div><div>Airplane mode</div><div>Low Power Mode</div><div>Ongoing iCloud restore</div><div>Settings</div><div>Display on/off state</div><div>Device temperature</div><div>System budgets</div><div>Process contention</div><div>App usage</div><div>App switcher</div><div>Rate limiting</div><div>Camera in-use</div><div>Device lock state</div></div><div data-bbox="1089 885 1316 922"><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>02:0817:08</div></div></div>

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	<div data-bbox="583 237 1822 933"><h3>Top factors</h3><ul style="list-style-type: none"><li> Critically low battery</li><li> Low Power Mode</li><li> App usage</li><li> App switcher</li><li> Background App Refresh switch</li><li> System budgets</li><li> Rate limiting</li></ul></div>

Claim	Public Documentation
	 <p>The image shows three Apple Watch screens side-by-side. The first screen is the 'Settings' menu, showing options for General, Do Not Disturb, and Airplane Mode. The second screen is the 'General' settings menu, showing options for Software Update, Orientation, Background App Refresh, and Wake Screen. The third screen is the 'Background App Refresh' settings menu, showing a toggle switch for 'Background App Refresh' which is currently turned off. Below the toggle, there is a warning message: 'Turning off Background App Refresh may preserve battery life. Apps with complications on the current watch face will continue to refresh, even when their background app refresh setting is off.'</p> <p>See also, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>.</p>
<p>[1i] classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground,</p>	<p>The Accused Instrumentalities “classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, sold and used by T-Mobile classify applications and internet service activities in both foreground and background. See, e.g., <a href="https://support.apple.com/en-us/HT202070">https://support.apple.com/en-us/HT202070</a>:</p>



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	<div data-bbox="604 305 1297 362"><h2>Use Background App Refresh</h2></div> <div data-bbox="604 391 1377 638"><p>After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content.</p></div> <div data-bbox="604 670 1373 878"><p>If you want suspended apps to check for new content, go to Settings &gt; General &gt; Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.</p></div> <div data-bbox="583 1377 1144 1411"><p><a href="https://support.apple.com/en-us/HT205234">https://support.apple.com/en-us/HT205234</a>:</p></div> <div data-bbox="1436 259 1969 1341"></div>

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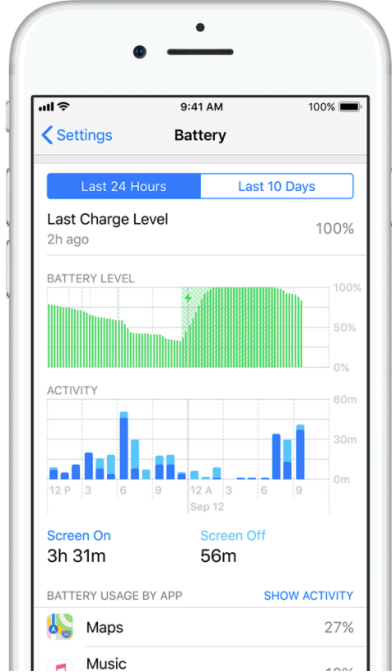
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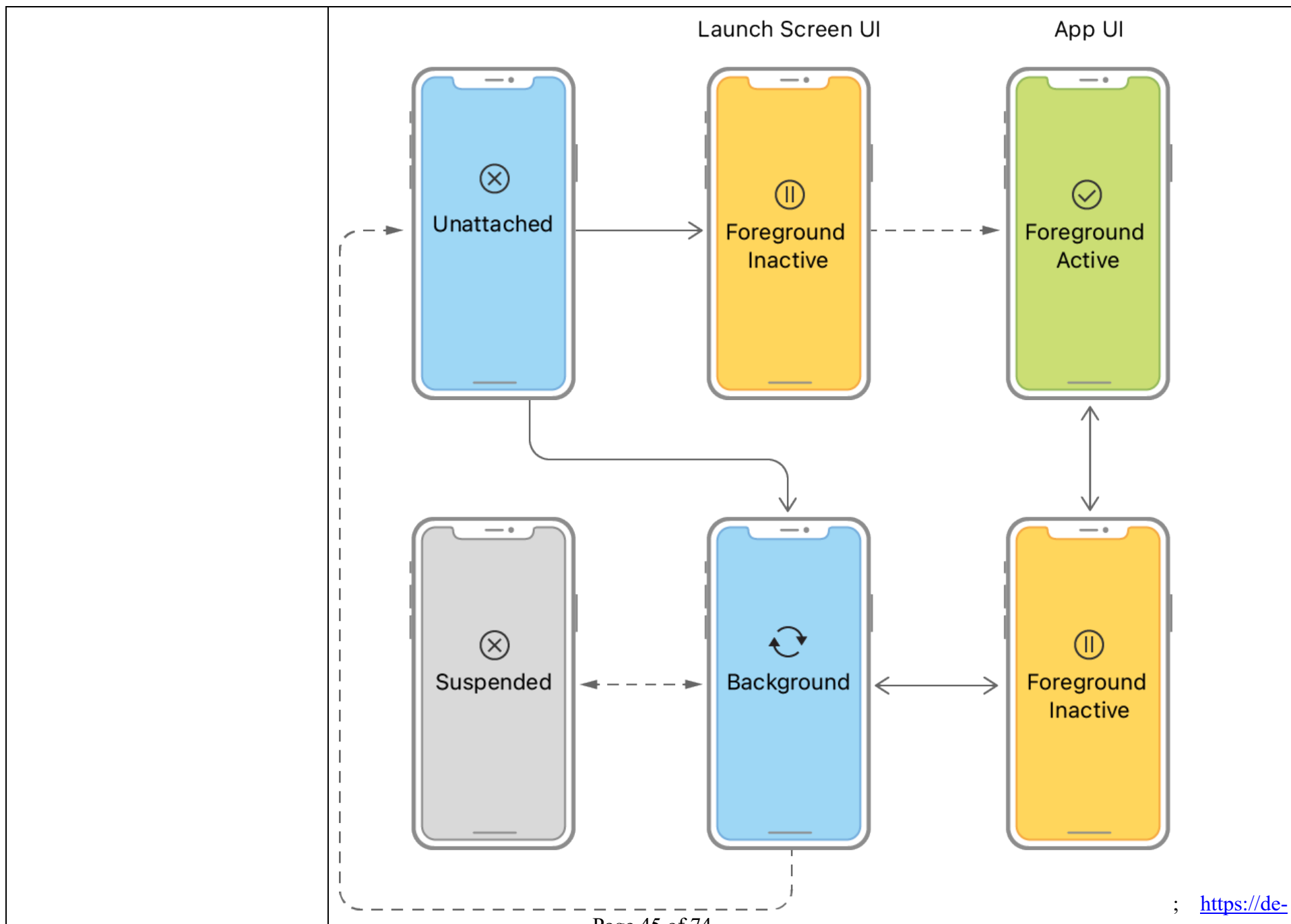
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	<p><a href="https://www.apple.com/batteries/maximizing-performance/">https://www.apple.com/batteries/maximizing-performance/</a>:</p> <h2 data-bbox="625 305 1396 358">View Battery Usage information</h2> <p data-bbox="625 378 1314 500">With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings &gt; Battery.</p> <p data-bbox="625 527 1291 586">Here are the messages you may see listed below the apps you've been using:</p> <p data-bbox="625 656 1291 748"><b>Background Activity.</b> This indicates that the battery was used by the app while it was in the background — that is, while you were using another app.</p> <ul data-bbox="657 779 1314 1024" style="list-style-type: none"> <li>• To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings &gt; General &gt; Background App Refresh and select Wi-Fi, Wi-Fi &amp; Cellular Data, or Off to turn off Background App Refresh entirely.</li> <li>• If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings &gt; Accounts &amp; Passwords &gt; Fetch New Data.</li> </ul>  <p data-bbox="583 1068 1734 1101">; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>:</p>

Claim	Public Documentation
	<p data-bbox="611 250 852 280">Instance Property</p> <h2 data-bbox="611 318 1018 373">applicationState</h2> <p data-bbox="611 399 1314 430">The app's current state, or that of its most active scene.</p> <div data-bbox="611 469 1373 500"> iOS 4.0+ iPadOS 4.0+ Mac Catalyst 13.1+ tvOS 9.0+ visionOS 1.0+ Beta </div> <pre data-bbox="611 558 1268 589">var applicationState: UIApplication.State { get }</pre> <hr data-bbox="611 662 1940 665"/> <h2 data-bbox="611 727 837 769">Discussion</h2> <p data-bbox="611 800 1451 831">The behavior of this property depends on whether your app is scene-based.</p> <p data-bbox="611 855 1927 990">In a scene-based app, this property takes the value of the most active scene, which it determines from each scene's <a data-bbox="611 889 793 920">activationState</a> property. A scene-based app launches in the background state, and transitions between its states as scenes connect, change their states, and disconnect. For scene-based apps, use <a data-bbox="1115 927 1360 958">UISceneDelegate</a> to respond to changes in an individual scene's life cycle.</p> <p data-bbox="611 1019 1940 1192">In a sceneless app, the property's value is always the app's current state. The app is inactive at launch, and then is generally in either an active or background state. The app may become inactive for a short period — for example, when transitioning between active and background states, when the system presents an alert in front of it, or when the system displays the application switcher. For sceneless apps, use <a data-bbox="1052 1128 1360 1159">UIApplicationDelegate</a> to respond to the app's life cycle changes.</p> <p data-bbox="611 1214 1965 1245">; <a data-bbox="611 1214 1965 1245" href="https://developer.apple.com/documentation/uikit/app_and_environment/managing_your_app_s_life_cycle">https://developer.apple.com/documentation/uikit/app_and_environment/managing_your_app_s_life_cycle</a>:</p>

Claim	Public Documentation
	<div data-bbox="590 240 1822 612"><h1 data-bbox="600 256 1703 334">Managing Your App's Life Cycle</h1><p data-bbox="600 370 1728 521">Respond to system notifications when your app is in the foreground or background, and handle other significant system-related events.</p></div> <div data-bbox="590 696 869 753"><h2 data-bbox="600 703 869 753">Overview</h2></div> <div data-bbox="590 795 1770 1081"><p data-bbox="600 800 1770 1081">The current state of your app determines what it can and cannot do at any time. For example, a foreground app has the user's attention, so it has priority over system resources, including the CPU. By contrast, a background app must do as little work as possible, and preferably nothing, because it is offscreen. As your app changes from state to state, you must adjust its behavior accordingly.</p></div>



Claim	Public Documentation
	<p data-bbox="588 245 1575 310"><a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/">veloper.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/</a>:</p> <div data-bbox="588 315 1822 480"><h2 data-bbox="596 321 1583 375">Preparing Your UI to Run in the Foreground</h2><p data-bbox="596 396 1064 423">Configure your app to appear onscreen.</p></div> <h3 data-bbox="596 540 777 578">Overview</h3> <p data-bbox="596 605 1803 729">Use foreground transitions to prepare your app's UI to appear onscreen. An app's transition to the foreground is usually in response to a user action. For example, when the user taps the app's icon, the system launches the app and brings it to the foreground. Use a foreground transition to update your app's UI, acquire resources, and start the services you need to handle user requests.</p>

Claim	Public Documentation
	<p><b>Configure Your User Interface and Initial Tasks at Activation</b></p> <p>The system moves your app to the active state immediately before displaying the app's UI. Activation is a good time to configure your app's UI and runtime behavior; specifically:</p> <ul style="list-style-type: none"> <li>• Show your app's windows, if needed.</li> <li>• Change the currently visible view controller, if needed.</li> <li>• Update the data values and state of views and controls.</li> <li>• Display controls to resume a paused game.</li> <li>• Start or resume any dispatch queues that you use to execute tasks.</li> <li>• Update data source objects.</li> <li>• Start timers for periodic tasks.</li> </ul> <p>Put your configuration code in one of the following methods:</p> <ul style="list-style-type: none"> <li>• For a scene-based UI—The <code>sceneDidBecomeActive(_:)</code> method of the appropriate scene delegate object.</li> <li>• For all other apps—The <code>applicationDidBecomeActive(_:)</code> method of your app delegate object.</li> </ul> <p>Activation is also the time to put finishing touches on your UI before displaying it to the user. Don't run any code that might block your activation method. Instead, make sure you have everything you need in advance. For example, if your data changes frequently outside of the app, use background tasks to fetch updates from the network before your app returns to the foreground. Otherwise, be prepared to display existing data while you fetch changes asynchronously.</p> <p><a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a>;  <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/</a>;  <a href="https://developer.apple.com/documentation/backgroundtasks/">https://developer.apple.com/documentation/backgroundtasks/</a>; <a href="https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/">https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/</a>;  <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a></p>



Claim	Public Documentation
	<p><a href="https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/">ing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/; https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgappprefreshtask">https://developer.apple.com/documentation/backgroundtasks/bgappprefreshtask</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask">https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgtask">https://developer.apple.com/documentation/backgroundtasks/bgtask</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/">https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/">https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/</a>; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/state">https://developer.apple.com/documentation/uikit/uiapplication/state</a>; <a href="https://developer.apple.com/documentation/foundation/url_loading_system">https://developer.apple.com/documentation/foundation/url_loading_system</a>; <a href="https://developer.apple.com/documentation/foundation/urlsession">https://developer.apple.com/documentation/foundation/urlsession</a>; <a href="https://developer.apple.com/documentation/avfoundation/avplayer">https://developer.apple.com/documentation/avfoundation/avplayer</a>; <a href="https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback">https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback</a>; <a href="https://developer.apple.com/videos/play/wwdc2019/707/">https://developer.apple.com/videos/play/wwdc2019/707/</a>; <a href="https://developer.apple.com/videos/play/wwdc2020/10063">https://developer.apple.com/videos/play/wwdc2020/10063</a>:</p>

Claim	Public Documentation
	<div data-bbox="585 237 1820 933"><h3>Factors affecting your runtime</h3><div><div>Critically low battery</div><div>Background App Refresh switch</div><div>Airplane mode</div><div>Low Power Mode</div><div>Ongoing iCloud restore</div><div>Settings</div><div>Display on/off state</div><div>Device temperature</div><div>System budgets</div><div>Process contention</div><div>App usage</div><div>App switcher</div><div>Rate limiting</div><div>Camera in-use</div><div>Device lock state</div></div><div data-bbox="1089 886 1316 922"><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>02:1817:08</div></div></div>

## Top factors



Critically low battery



Low Power Mode



App usage



App switcher



Background App Refresh switch




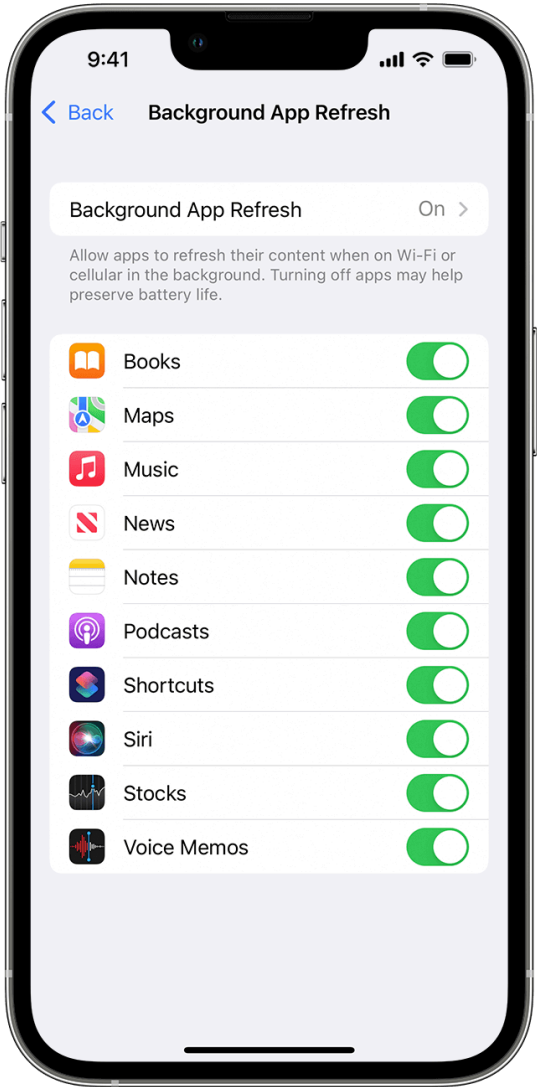
System budgets



Rate limiting



Claim	Public Documentation
	 <p>The image shows three Apple Watch screens side-by-side. The first screen is the 'Settings' menu with options for General, Do Not Disturb, and Airplane Mode. The second screen is the 'General' settings page with options for Software Update, Orientation, Background App Refresh, and Wake Screen. The third screen is the 'Background App Refresh' settings page, showing a toggle switch turned off and a descriptive text block about battery life and app refresh behavior.</p> <p>See also, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>.</p>
<p>[1j] is interacting with the user in the device user interface foreground, and</p>	<p>The Accused Instrumentalities comprise one or more applications “interacting with the user in the device user interface foreground.”</p> <p>For example, Apple’s devices, including the iPhone 15 Pro, sold and used by T-Mobile classify applications and internet service activities in both foreground and background. See, e.g., <a href="https://support.apple.com/en-us/HT202070">https://support.apple.com/en-us/HT202070</a>:</p>

Claim	Public Documentation
	<div data-bbox="604 305 1297 363"><h2>Use Background App Refresh</h2></div> <div data-bbox="604 391 1377 639"><p>After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content.</p></div> <div data-bbox="604 672 1373 878"><p>If you want suspended apps to check for new content, go to Settings &gt; General &gt; Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.</p></div> <div data-bbox="583 1377 1144 1412"><p><a href="https://support.apple.com/en-us/HT205234">https://support.apple.com/en-us/HT205234</a>:</p></div> <div data-bbox="1436 261 1969 1341"></div>

## Use Low Power Mode to save battery life on your iPhone or iPad


Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

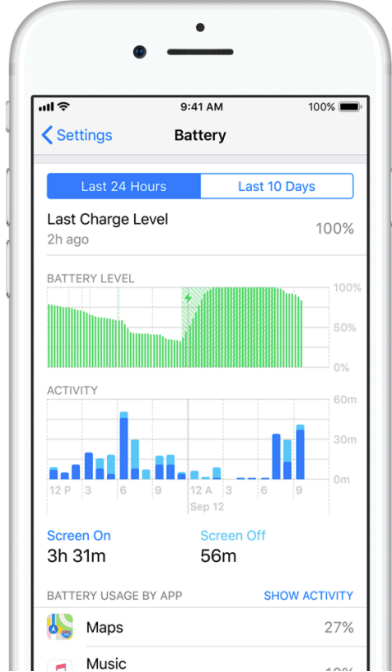
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models<sup>1</sup>
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display<sup>2</sup>
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

When Low Power Mode is on, the battery in the status bar will be yellow. You'll see a yellow battery icon  and the battery percentage. After you charge your iPhone or iPad to 80% or higher, Low Power Mode automatically turns off.



1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).

2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.

Claim	Public Documentation
	<p><a href="https://www.apple.com/batteries/maximizing-performance/">https://www.apple.com/batteries/maximizing-performance/</a>:</p> <h2 data-bbox="625 305 1396 358">View Battery Usage information</h2> <p data-bbox="625 378 1316 500">With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings &gt; Battery.</p> <p data-bbox="625 527 1293 586">Here are the messages you may see listed below the apps you've been using:</p> <p data-bbox="625 656 1293 747"><b>Background Activity.</b> This indicates that the battery was used by the app while it was in the background — that is, while you were using another app.</p> <ul data-bbox="657 779 1316 1024" style="list-style-type: none"> <li>• To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings &gt; General &gt; Background App Refresh and select Wi-Fi, Wi-Fi &amp; Cellular Data, or Off to turn off Background App Refresh entirely.</li> <li>• If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings &gt; Accounts &amp; Passwords &gt; Fetch New Data.</li> </ul>  <p data-bbox="583 1068 1736 1101">; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>:</p>

Claim	Public Documentation
	<p data-bbox="611 250 852 280">Instance Property</p> <h2 data-bbox="611 318 1018 373">applicationState</h2> <p data-bbox="611 399 1314 430">The app's current state, or that of its most active scene.</p> <div data-bbox="611 469 1373 500"> iOS 4.0+ iPadOS 4.0+ Mac Catalyst 13.1+ tvOS 9.0+ visionOS 1.0+ Beta </div> <pre data-bbox="611 558 1268 589">var applicationState: UIApplication.State { get }</pre> <hr data-bbox="611 662 1940 665"/> <h2 data-bbox="611 727 840 769">Discussion</h2> <p data-bbox="611 800 1451 831">The behavior of this property depends on whether your app is scene-based.</p> <p data-bbox="611 855 1927 990">In a scene-based app, this property takes the value of the most active scene, which it determines from each scene's <a data-bbox="611 889 800 920" href="#">activationState</a> property. A scene-based app launches in the background state, and transitions between its states as scenes connect, change their states, and disconnect. For scene-based apps, use <a data-bbox="1079 927 1268 958" href="#">UISceneDelegate</a> to respond to changes in an individual scene's life cycle.</p> <p data-bbox="611 1019 1940 1192">In a sceneless app, the property's value is always the app's current state. The app is inactive at launch, and then is generally in either an active or background state. The app may become inactive for a short period — for example, when transitioning between active and background states, when the system presents an alert in front of it, or when the system displays the application switcher. For sceneless apps, use <a data-bbox="1079 1127 1352 1157" href="#">UIApplicationDelegate</a> to respond to the app's life cycle changes.</p> <p data-bbox="611 1214 1988 1427">; <a data-bbox="879 1214 1988 1245" href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a>; <a data-bbox="1079 1252 1988 1282" href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/</a>; <a data-bbox="611 1289 1688 1320" href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/</a>; <a data-bbox="1814 1359 1988 1390" href="https://developer.apple.com/documentation/backgroundtasks/">https://developer.apple.com/documentation/backgroundtasks/</a>;</p>



Claim	Public Documentation
	<p> <a href="https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/">https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/</a>;  <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/">https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/</a>;  <a href="https://developer.apple.com/documentation/backgroundtasks">https://developer.apple.com/documentation/backgroundtasks</a>  <a href="https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask;">https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask;">https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask</a>;  <a href="https://developer.apple.com/documentation/backgroundtasks/bgtask;">https://developer.apple.com/documentation/backgroundtasks/bgtask</a>;  <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/">https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/</a>;  <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/">https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/</a>;  <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_foreground/</a>;  <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>;  <a href="https://developer.apple.com/documentation/uikit/uiapplication/state">https://developer.apple.com/documentation/uikit/uiapplication/state</a>;  <a href="https://developer.apple.com/documentation/foundation/url_loading_system">https://developer.apple.com/documentation/foundation/url_loading_system</a>;  <a href="https://developer.apple.com/documentation/foundation/urlsession">https://developer.apple.com/documentation/foundation/urlsession</a>;  <a href="https://developer.apple.com/documentation/avfoundation/avplayer">https://developer.apple.com/documentation/avfoundation/avplayer</a>;  <a href="https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback">https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback</a>;  <a href="https://developer.apple.com/videos/play/wwdc2019/707/">https://developer.apple.com/videos/play/wwdc2019/707/</a>;  <a href="https://developer.apple.com/videos/play/wwdc2020/10063">https://developer.apple.com/videos/play/wwdc2020/10063</a>; </p>

Claim	Public Documentation
	<div data-bbox="585 237 1820 933"><h3>Factors affecting your runtime</h3><div>Critically low battery      Background App Refresh switch      Airplane mode</div><div>Low Power Mode      Ongoing iCloud restore      Settings      Display on/off state</div><div>Device temperature      System budgets      Process contention      App usage</div><div>App switcher      Rate limiting      Camera in-use      Device lock state</div><div data-bbox="1089 885 1316 922"><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>02:0817:08</div></div></div>

## Top factors



Critically low battery



Low Power Mode



App usage



App switcher



Background App Refresh switch



System budgets

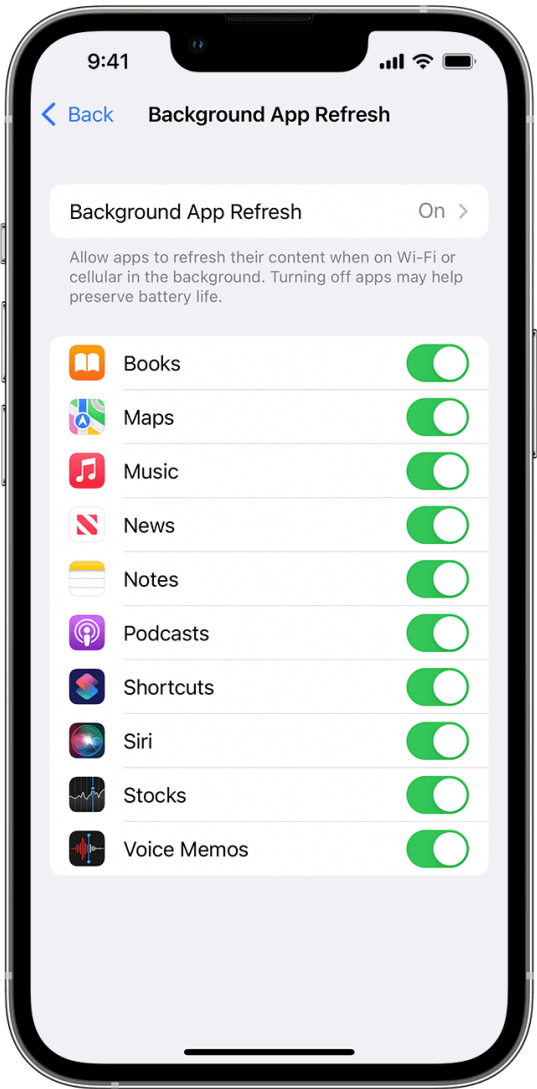


Rate limiting



Claim	Public Documentation
	 <p>The image shows three Apple Watch screens side-by-side. The first screen is the 'Settings' menu, showing options for General, Do Not Disturb, and Airplane Mode. The second screen is the 'General' settings menu, showing options for Software Update, Orientation, Background App Refresh, and Wake Screen. The third screen is the 'Background App Refresh' settings menu, showing a toggle switch for 'Background App Refresh' which is currently turned off. Below the toggle, there is a warning message: 'Turning off Background App Refresh may preserve battery life. Apps with complications on the current watch face will continue to refresh, even when their background app refresh setting is off.'</p> <p>See also, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>.</p>
<p>[1k] selectively allow or deny one or more Internet service activities by or on behalf of the particular application based on whether or not the particular application is one of the first one or more applications,</p>	<p>The Accused Instrumentalities “selectively allow or deny one or more Internet service activities by or on behalf of the particular application based on whether or not the particular application is one of the first one or more applications, the differential traffic control policy, including any applicable user augmentation of the differential traffic control policy, and the classifications performed by the one or more processors.”</p>

Claim	Public Documentation
the differential traffic control policy, including any applicable user augmentation of the differential traffic control policy, and the classifications performed by the one or more processors.	For example, Apple's devices, including the iPhone 15 Pro, sold and used by T-Mobile allow or deny internet service activities by or on behalf of applications based on classifications of particular applications and policies.. <i>See, e.g.</i> , <a href="https://support.apple.com/en-us/HT202070">https://support.apple.com/en-us/HT202070</a> :

Claim	Public Documentation
	<div data-bbox="604 305 1297 362"><h2>Use Background App Refresh</h2></div> <div data-bbox="604 391 1377 638"><p>After you switch to a different app, some apps run for a short period of time before they're set to a suspended state. Apps that are in a suspended state aren't actively in use, open, or taking up system resources. With Background App Refresh, suspended apps can check for updates and new content.</p></div> <div data-bbox="604 670 1373 878"><p>If you want suspended apps to check for new content, go to Settings &gt; General &gt; Background App Refresh and turn on Background App Refresh. If you quit an app from the app switcher, it might not be able to run or check for new content before you open it again.</p></div> <div data-bbox="583 1377 1144 1411"><p><a href="https://support.apple.com/en-us/HT205234">https://support.apple.com/en-us/HT205234</a>:</p></div> <div data-bbox="1436 259 1969 1341"></div>

## Use Low Power Mode to save battery life on your iPhone or iPad


Low Power Mode reduces the amount of power that your iPhone or iPad uses when the battery gets low.

To turn Low Power Mode on or off, go to Settings > Battery. You can also turn Low Power Mode on and off from Control Center. Go to Settings > Control Center > Customize Controls, then select Low Power Mode to add it to Control Center.

When Low Power Mode is on, your iPhone or iPad will last longer before you need to charge it, but some features might take longer to update or complete. Also, some tasks might not work until you turn off Low Power Mode, or until you charge your iPhone or iPad to 80% or higher.

Low Power Mode reduces or affects these features:

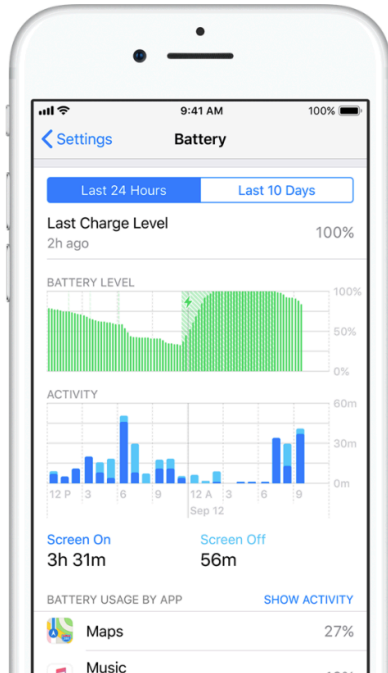
- 5G (except for video streaming) on iPhone 12 and iPhone 13 models<sup>1</sup>
- Auto-Lock (defaults to 30 seconds)
- Display brightness
- Display refresh rate (limited up to 60 Hz) on iPhone and iPad models with ProMotion display<sup>2</sup>
- Some visual effects
- iCloud Photos (temporarily paused)
- Automatic downloads
- Email fetch
- Background app refresh

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1. If you turn on Low Power Mode, 5G is disabled, except in some cases like video streaming and large downloads on iPhone 12 and iPhone 13 models. With iPhone 12 models, Low Power Mode disables 5G standalone (where available).










2. These devices have ProMotion display: iPhone 13 Pro and later, iPhone 13 Pro Max and later, iPad Pro 10.5-inch, all iPad Pro 11-inch models, and iPad Pro 12.9-inch (2nd generation) and later.


Claim	Public Documentation
	<p data-bbox="583 240 1350 272"><a href="https://www.apple.com/batteries/maximizing-performance/">https://www.apple.com/batteries/maximizing-performance/</a>:</p> <h2 data-bbox="625 302 1396 358">View Battery Usage information</h2> <p data-bbox="625 375 1316 500">With iOS, you can easily manage your device's battery life, because you can see the proportion of your battery used by each app (unless the device is charging). To view your usage, go to Settings &gt; Battery.</p> <p data-bbox="625 526 1293 583">Here are the messages you may see listed below the apps you've been using:</p> <p data-bbox="625 654 1293 743"><b>Background Activity.</b> This indicates that the battery was used by the app while it was in the background — that is, while you were using another app.</p> <ul data-bbox="657 776 1316 1024" style="list-style-type: none"> <li data-bbox="657 776 1316 901">• To improve battery life, you can turn off the feature that allows apps to refresh in the background. Go to Settings &gt; General &gt; Background App Refresh and select Wi-Fi, Wi-Fi &amp; Cellular Data, or Off to turn off Background App Refresh entirely.</li> <li data-bbox="657 930 1283 1024">• If the Mail app lists Background Activity, you can choose to fetch data manually or increase the fetch interval. Go to Settings &gt; Accounts &amp; Passwords &gt; Fetch New Data.</li> </ul>  <p data-bbox="583 1068 1988 1393">; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>; <a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/about_the_background_execution_sequence/</a>; <a href="https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/">https://developer.apple.com/documentation/uikit/app_and_environment/scenes/preparing_your_ui_to_run_in_the_background/extending_your_app_s_background_execution_time/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/">https://developer.apple.com/documentation/backgroundtasks/</a>; <a href="https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/">https://developer.apple.com/documentation/watchkit/background_execution/using_background_tasks/</a>;</p>



Claim	Public Documentation
	<p><a href="https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/">https://developer.apple.com/documentation/uikit/windows_and_screens/scenes/preparing_your_ui_to_run_in_the_background/using_background_tasks_to_update_your_app/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/">https://developer.apple.com/documentation/backgroundtasks/refreshing_and_maintaining_your_app_using_background_tasks/</a>; <a href="https://developer.apple.com/documentation/backgroundtasks">https://developer.apple.com/documentation/backgroundtasks</a> <a href="https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask;">https://developer.apple.com/documentation/backgroundtasks/bgapprefreshtask</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask;">https://developer.apple.com/documentation/backgroundtasks/bgprocessingtask</a>; <a href="https://developer.apple.com/documentation/backgroundtasks/bgtask;">https://developer.apple.com/documentation/backgroundtasks/bgtask</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/">https://developer.apple.com/documentation/uikit/uiapplication/1622976-backgroundfetchintervalminimum/</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/">https://developer.apple.com/documentation/uikit/uiapplication/1622994-backgroundrefreshstatus/</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate/">https://developer.apple.com/documentation/uikit/uiapplication/1623003-applicationstate</a>; <a href="https://developer.apple.com/documentation/uikit/uiapplication/state/">https://developer.apple.com/documentation/uikit/uiapplication/state</a>; <a href="https://developer.apple.com/documentation/foundation/url_loading_system/">https://developer.apple.com/documentation/foundation/url_loading_system</a>; <a href="https://developer.apple.com/documentation/foundation/urlsession/">https://developer.apple.com/documentation/foundation/urlsession</a>; <a href="https://developer.apple.com/documentation/avfoundation/avplayer/">https://developer.apple.com/documentation/avfoundation/avplayer</a>; <a href="https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback/">https://developer.apple.com/documentation/avfoundation/media_playback/configuring_your_app_for_media_playback</a>; <a href="https://developer.apple.com/videos/play/wwdc2019/707/">https://developer.apple.com/videos/play/wwdc2019/707/</a>; <a href="https://developer.apple.com/videos/play/wwdc2020/10063/">https://developer.apple.com/videos/play/wwdc2020/10063/</a>;</p>

Claim	Public Documentation
	<div data-bbox="583 237 1822 933"><h3>Factors affecting your runtime</h3><div><div>Critically low battery</div><div>Background App Refresh switch</div><div>Airplane mode</div><div>Low Power Mode</div><div>Ongoing iCloud restore</div><div>Settings</div><div>Display on/off state</div><div>Device temperature</div><div>System budgets</div><div>Process contention</div><div>App usage</div><div>App switcher</div><div>Rate limiting</div><div>Camera in-use</div><div>Device lock state</div></div><div data-bbox="1089 885 1316 922"><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>02:1017:08</div></div></div>

Claim	Public Documentation
	<div data-bbox="583 237 1822 933"><h3>Top factors</h3><ul style="list-style-type: none"><li> Critically low battery</li><li> Low Power Mode</li><li> App usage</li><li> App switcher</li><li> Background App Refresh switch</li><li> System budgets</li><li> Rate limiting</li></ul></div>

Claim	Public Documentation
	 <p>The image shows three Apple Watch screens side-by-side. The first screen is the 'Settings' menu, showing options for General, Do Not Disturb, and Airplane Mode. The second screen is the 'General' settings menu, showing options for Software Update, Orientation, Background App Refresh, and Wake Screen. The third screen is the 'Background App Refresh' settings menu, showing a toggle switch for 'Background App Refresh' which is currently turned off. Below the screens, there is a paragraph of text providing additional context and links.</p> <p>See also, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>.</p>
<p>2. The wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively deny one or more Internet service activities by or on behalf of the particular application when the particular application is one of the</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively deny one or more Internet service activities by or on behalf of the particular application when the particular application is one of the first one or more applications, the classified wireless network is a WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground.”</p> <p>See, for example, the disclosures identified for claim 1.</p>

Claim	Public Documentation
first one or more applications, the classified wireless network is a WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground.	
3. The wireless end-user device of claim 2, wherein the one or more processors are further configured to override the selective denial of one or more Internet service activities by or on behalf of the particular application when the user has augmented the differential traffic control policy so as to indicate that Internet service activities are allowable when the classified wireless network is the WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground.	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 2, wherein the one or more processors are further configured to override the selective denial of one or more Internet service activities by or on behalf of the particular application when the user has augmented the differential traffic control policy so as to indicate that Internet service activities are allowable when the classified wireless network is the WWAN type, and the particular application is classified as not interacting with the user in the device user interface foreground.”</p> <p><i>See, for example, the disclosures identified for claims 1-2.</i></p>
4. The wireless end-user device of claim 2, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of the particular application when the particular application is one of the first one or more applications, the	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 2, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of the particular application when the particular application is one of the first one or more applications, the classified wireless network is the WWAN type, and the particular application is classified as interacting with the user in the device user interface foreground.”</p> <p><i>See, for example, the disclosures identified for claims 1-2.</i></p>

Claim	Public Documentation
classified wireless network is the WWAN type, and the particular application is classified as interacting with the user in the device user interface foreground.	
5. The wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of a second particular application and/or service when the second particular application and/or service is one of the second one or more applications and/or services and the classified wireless network is the WWAN type.	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein based on the differential traffic control policy the one or more processors selectively allow one or more Internet service activities by or on behalf of a second particular application and/or service when the second particular application and/or service is one of the second one or more applications and/or services and the classified wireless network is the WWAN type.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
6. The wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground when the user of the device is directly interacting with that application or perceiving any benefit from that application.	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground when the user of the device is directly interacting with that application or perceiving any benefit from that application.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>

Claim	Public Documentation
<p>7. The wireless end-user device of claim 1, wherein the user interface is further to provide the user of the device with information regarding why the differential traffic control policy is applied to the particular application.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the user interface is further to provide the user of the device with information regarding why the differential traffic control policy is applied to the particular application.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>8. The wireless end-user device of claim 1, wherein the differential traffic control policy is part of a multimode profile having different policies for different ones of the network types.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the differential traffic control policy is part of a multimode profile having different policies for different ones of the network types.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>9. The wireless end-user device of claim 8, wherein the one or more processors are further configured to select a traffic control policy from the multimode profile based at least in part on the classified wireless network type.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 8, wherein the one or more processors are further configured to select a traffic control policy from the multimode profile based at least in part on the classified wireless network type.”</p> <p><i>See, for example, the disclosures identified for claims 1 and 8.</i></p>
<p>10. The wireless end-user device of claim 9, wherein the one or more processors are further configured to, when the classified wireless network type is at least one type of WLAN, select the traffic control policy from the multimode profile based at least in part on a type of network connection from the WLAN to the Internet.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 9, wherein the one or more processors are further configured to, when the classified wireless network type is at least one type of WLAN, select the traffic control policy from the multimode profile based at least in part on a type of network connection from the WLAN to the Internet.”</p> <p><i>See, for example, the disclosures identified for claim 1 and 9.</i></p>

Claim	Public Documentation
<p>11. The wireless end-user device of claim 1, wherein the plurality of network types include three or more of 2G, 3G, 4G, home, roaming, and WiFi.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the plurality of network types include three or more of 2G, 3G, 4G, home, roaming, and WiFi.”</p> <p><i>See</i>, for example, the disclosures identified for claim 1.</p>
<p>12. The wireless end-user device of claim 1, the one or more processors further configured to receive an update to at least a portion of the differential traffic control policy list from a network element.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, the one or more processors further configured to receive an update to at least a portion of the differential traffic control policy list from a network element.”</p> <p><i>See</i>, for example, the disclosures identified for claim 1.</p> <p>As yet another example, the Accused Instrumentalities determine aspects of policies based on information from a network element. <i>See also</i>, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>; <a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a>; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a>; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a>; <a href="https://www.t-mobile.com/apps/t-mobile-app">https://www.t-mobile.com/apps/t-mobile-app</a>; <a href="https://www.t-mobile.com/apps/t-mobile-family-mode">https://www.t-mobile.com/apps/t-mobile-family-mode</a>; <a href="https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings">https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings</a>; <a href="https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings">https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings</a>.</p>
<p>13. The wireless end-user device of claim 1, wherein the plurality of network types include a roaming WWAN type and a home WWAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the roaming WWAN type and the home WWAN type.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the plurality of network types include a roaming WWAN type and a home WWAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the roaming WWAN type and the home WWAN type.”</p> <p><i>See</i>, for example, the disclosures identified for claim 1.</p> <p>For further example, the policy can be based on roaming on a WWAN network. <i>See also</i>, e.g., <a href="https://www.t-mobile.com/cell-phone-plans">https://www.t-mobile.com/cell-phone-plans</a>; <a href="https://www.t-mobile.com/cell-phone-plans/affordable-data-plans">https://www.t-mobile.com/cell-phone-plans/affordable-data-plans</a>; <a href="https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness">https://www.t-mobile.com/business?INTNAV=tNav%3ABusiness</a>; <a href="https://prepaid.t-mobile.com">https://prepaid.t-mobile.com</a>;</p>



Claim	Public Documentation
	<a href="https://www.t-mobile.com/cell-phone-plans/international-roaming-plans">https://www.t-mobile.com/cell-phone-plans/international-roaming-plans</a> ; <a href="https://www.t-mobile.com/support/coverage/domestic-roaming-data">https://www.t-mobile.com/support/coverage/domestic-roaming-data</a> ; <a href="https://www.t-mobile.com/customers/unlimited-roaming-sms-data">https://www.t-mobile.com/customers/unlimited-roaming-sms-data</a> ; <a href="https://www.t-mobile.com/apps/t-mobile-app">https://www.t-mobile.com/apps/t-mobile-app</a> ; <a href="https://www.t-mobile.com/apps/t-mobile-family-mode">https://www.t-mobile.com/apps/t-mobile-family-mode</a> ; <a href="https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings">https://www.t-mobile.com/support/devices/not-sold-by-t-mobile/byod-t-mobile-data-and-apn-settings</a> ; <a href="https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings">https://www.t-mobile.com/support/tutorials/device/apple/iphone-x/topic/connections-amp-network/apn-and-data-settings</a> .
<p>14. The wireless end-user device of claim 1, wherein the plurality of network types include the WWAN type and a WLAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the WWAN type and the WLAN type.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the plurality of network types include the WWAN type and a WLAN type, and the one or more processors are to apply the differential traffic control policy to one of but not both of the WWAN type and the WLAN type.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>15. The wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a power state of the device.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a power state of the device.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>16. The wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a device usage state.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on a device usage state.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>

Claim	Public Documentation
<p>17. The wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on power control state changes for one or more of the modems.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to dynamically change the application of the differential traffic control policy based on power control state changes for one or more of the modems.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>18. The wireless end-user device of claim 1, wherein the differential traffic control policy defines that the first one or more applications can only access a first one of the network types during particular time windows.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the differential traffic control policy defines that the first one or more applications can only access a first one of the network types during particular time windows.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>19. The wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground based on a state of user interface priority for the application.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the one or more processors are configured to classify that the particular application is interacting with the user in the device user interface foreground based on a state of user interface priority for the application.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>20. The wireless end-user device of claim 1, wherein the second one or more applications are not subject to a differential network access control that is applicable to the first one or more applications.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the second one or more applications are not subject to a differential network access control that is applicable to the first one or more applications.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>

Claim	Public Documentation
<p>21. The wireless end-user device of claim 1, wherein the one or more processors are further configured to classify between: user applications; system applications, utilities, functions, or processes; and operating system application, utilities, functions, or processes.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the one or more processors are further configured to classify between: user applications; system applications, utilities, functions, or processes; and operating system application, utilities, functions, or processes.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>22. The wireless end-user device of claim 1, wherein the second one or more applications or services comprises foreground services.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the second one or more applications or services comprises foreground services.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>23. The wireless end-user device of claim 1, wherein selectively deny comprises intermittently block when the one or more Internet service activities are requested during selected time windows.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein selectively deny comprises intermittently block when the one or more Internet service activities are requested during selected time windows.”</p> <p><i>See, for example, the disclosures identified for claim 1.</i></p>
<p>24. The wireless end-user device of claim 1, wherein the one or more processors are configured to prevent the first one or more applications from changing the power state of at least one of the modems, and to not prevent the second one or more applications from changing the power state of the same modem or modems.</p>	<p>The Accused Instrumentalities comprise “[t]he wireless end-user device of claim 1, wherein the one or more processors are configured to prevent the first one or more applications from changing the power state of at least one of the modems, and to not prevent the second one or more applications from changing the power state of the same modem or modems.”</p> <p><i>See, for example, the disclosures identified for claims 1 and 17.</i></p>